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No. 17

Chemical Output in January This Year More Than in 1959

Government Report Shows Increases in Significant Areas

WASHINGTON — Production of several inorganic chemicals in January, 1960, was considerably above the output of the same month a year ago, according to U.S. Department of Commerce Bureau of the Census.

Synthetic anhydrous ammonia output for January, 1960, was 396,403 tons as compared to 338,805 tons in January the year before.

Ammonium nitrate total production was 278,030 tons in January, 1960 and 227,887 tons the same month of 1959.

Synthetic ammonium sulfate output was 97,261 tons in January, 1960 and 88,531 tons in January, 1959. By-product ammonium sulfate figures were 68,933 tons and 63,604 tons, respectively.

Production of nitrogen solutions (including combination with urea) was 65,820 tons in January, 1960 and 52,119 tons in the like period of 1959.

Nitric acid output was also up in January, 1960 as compared to the same month last year. The figures were 287,981 tons and 240,780 tons, respectively.

Total phosphoric acid output for January, 1960, was 162,443 tons, and for January, 1959, 151,045 tons.

Sulfuric acid output was reported to be 1,589,402 tons in January, 1960 as compared to 1,464,274 tons in the same month of the previous year.

Six-Year Plan Against Locusts Starts in Rome

ROME—A six-year plan to combat the desert locust got under way in Rome April 9 with 13 nations signing an agreement at the headquarters of the United Nations Food and Agriculture Organization. The project will cost \$3,800,000. A total of 19 countries are cooperating in the initial stages, with others expected to join later.

Beginning next month, locust swarms will be attacked by land and air. The locale of battle is broad... stretching from Morocco on the Atlantic Ocean to the Himalayas. Entomologists predict that the project will prevent destruction of great quantities of foods usually devoured by the pests. Nearly an eighth of the

(Turn to LOCUSTS, page 8)

300 Attend California Fertilizer Conference

FRESNO, CAL. — Some 300 persons, most of whom are engaged in agricultural pursuits, were in attendance at the Eighth Annual California Fertilizer Conference here April 11-12. The event was sponsored by the Soil Improvement Committee of the CFA.

Speakers represented the University of California, the California Department of Agriculture, and various manufacturing companies in the trade. Banquet speaker April 11 was Earl Cole, vice president, Bank of America, San Francisco.

A panel discussion on legume fertilization was conducted under the chairmanship of R. L. Luckhardt, Collier Carbon & Chemical Corp., Los Angeles. Panel members were Dr.

William E. Martin, Victor Osterli, and Dr. R. Merton Love, University of California, Davis; Dr. Malcolm H. McVickar, California Spray-Chemical Corp., Richmond, Cal.; and Dr. Wm. L. Garman, The Best Fertilizers Co., Lathrop, Cal.

A caravan of cars and buses journeyed to the San Joaquin experimental range for a tour of the area under the direction of Lloyd Dowler, dean of agriculture at Fresno State College.

A series of talks on phosphate fertilization were presented. C. E. Brissenden, J. R. Simplot Co., Pocatello, Idaho, talked on "Phosphates, Their Origin and Development in the Western States;" Dr. D. S. Mikkelsen, department of agronomy, University of California, Davis, on "Prediction, Production and Profits from Phosphates on Cereals;" Dr. K. B. Tyler, department of vegetable crops, University of California, Riverside, on "New Results on Phosphorus Fertilization of Vegetables in California;" and Dr. Robert Ulrich, department of soils and plant nutrition, "Results of Plant Analysis Research with Lima Beans."

DeWitt Bishop, California State Bureau of Chemistry, Sacramento, discussed mixtures of fertilizers and pesticides from the viewpoint of a regulatory officer, and L. K. Stomberg, farm adviser, Fresno County, talked on "Potassium Fertilizer for Cotton."

Chairman of the soil improvement committee is M. E. McCollam, American Potash Institute, San Jose, and vice chairmen are L. E. Gould, Commercial Fertilizer Co., San Francisco, and R. L. Luckhardt, Collier Carbon & Chemical Co., Los Angeles. Sidney H. Bierly is general manager of the California Fertilizer Assn. His offices are in Sacramento. Demont W. Galbraith, Agrifirm of Northern California, Inc., Woodland, Cal., as president of the association, welcomed the group in the opening sessions.

Dry Fertilization System By Air Started in Canada

CAYUGA, ONTARIO—A system of dry fertilization by aircraft—designed to give farmers a head start on their growing season—has been demonstrated for what is believed to be the first time in Canada.

Aero Urea, a new prilled nitrogen product of Cyanamid of Canada, Ltd., was applied by aircraft onto the farm of Bruce Mehlenbacher on clay soil still too wet for fertilization by ground-driven equipment.

Prof. Norman Thomas of the Ontario Agricultural College at Guelph, observed that the new technique enabled farmers to fertilize fields up to three weeks earlier than might otherwise be possible.

"We have found," Mr. Mehlenbacher said, "that using this type of fertilizer will quadruple our yield of grasses for silage."

Red China's Fertilizer Needs, Production Problems Viewed

WASHINGTON — The great need for additional amounts of fertilizer for the agricultural needs of Red China and the relatively slow pace with which the government-owned industry is meeting these requirements are outlined in a report just issued by the Business and Defense Services Administration of the U.S. Department of Agriculture. Despite pressures exerted by government to make fertilizer output catch up with demand, the gap between supply and demand has widened even though

more production facilities have been added.

According to the report, fertilizer output in 1957 was 800,000 tons, compared to a consumption figure that year of 1.8 million tons; a shortage of a million tons. By 1958, production had risen to 1.2 million tons, but in the same period, consumption had jumped to 2.7 million tons, making a difference of 1,500,000 tons.

Minimum annual requirements have been estimated by the Chinese ministry of agriculture at more than 10 million tons. Other sources have set the figure as high as 20 million tons.

The story as told by BDSA and published in its monthly report, "Chemical and Rubber" dated February, 1960, is based on reports from the American Consulate General at Hong Kong. "Before 1950," the report says, "China had two large nitrogenous fertilizer plants, the Darleng Chemical Works and the Yungli Nanking Chemical Works, and several small plants. The large plants produced ammonium sulfate, rated annual capacities being 200,000 and 50,000 metric tons, respectively.

"These facilities were damaged during World War II but were renovated and expanded in the period 1949-52. In 1952, mainland China re-

(Turn to RED CHINA, page 20)

Thousands of Fish Killed by Fire Ants in Ponds and Streams in Mississippi Counties

GULFPORT, MISS.—Federal and state agricultural and wildlife officials are gravely concerned over the thousands of fish in ponds in at least five Mississippi counties which have fallen prey to fire ants.

Specimens examined at Mississippi State University contained undigested fire ants ranging in number up to 120 per fish. It is surmised the ants caused death by stinging or biting the fish.

C. C. Fancher, regional supervisor for Southern Plant Pest Control Division, USDA, Gulfport, believes the mass fish destruction in Mississippi and parts of Alabama is attributable to the recent warm weather and heavy rains which washed the fire ants into fish ponds.

While agricultural experts have generally blamed the wholesale fish deaths on the fire ants, none have directly pinpointed the ants as the cause of death.

Following a lengthy study of a quantity of dead fish found in Mississippi ponds, Dr. Ross E. Hutchins,

state entomologist headquartered at Mississippi State University concluded "presence of fire ants in dead fish does not of course mean that the ants have caused their deaths, although it is highly probable... massive numbers of ants in the stomach have either caused death by stinging, most probable explanation, or by absorption of poison in the digestive tract. Since the ants were confined to the stomach, the latter explanation would seem to be ruled out."

Further tests will be conducted to determine if the ants were alive when eaten by the fish to evaluate their direct effect.

Mr. Fancher, Gulfport division, said the threat of fire ants is not serious to moving streams or river fish inhabitants. He said it is more likely to occur in ponds.

The fire ant has been a prime target of the work of Mr. Fancher's plant pest control men at Gulfport for a number of years. The staff has worked toward developing insecti-

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Eldridge J. Black Named Stepan Executive

CHICAGO—Eldridge J. Black becomes vice president and general manager of Stepan Chemical Co.'s newly-formed industrial chemicals division. He was formerly vice president of sales for Stepan Chemical Co. This promotion is a part of the corporate reorganization going on at Stepan.

Products of the industrial chemicals division are manufactured at plants in Chicago, Millsdale, Ill. (near Joliet) and Maywood, N.J. The products include a complete line of surface-active agents and such basic materials as methyl esters, nonyl phenol and p-tertiary butyl phenol.

Eldridge J. Black

Chemical Employment Rises During February

WILMINGTON, DEL. — Employment in chemical manufacturing in Delaware remained firm during February, with 27,100 workers employed, the same number as in January, according to a recent report of the Delaware Unemployment Compensation Commission.

However, the number of chemical production workers is 700 higher than February a year ago when 26,400 were employed.

Average weekly earnings in February were \$124.24, the same as in January. Average hourly earnings also remained the same at \$3.06 for both February and January. The average work week was the same at 40.6 hours.

Dow Reports Earnings

MIDLAND, MICH. — The Dow Chemical Co. has reported net income of \$61,262,295, or \$2.24 per share of common stock outstanding, for the nine months period ended February 29, 1960. Sales for the period totaled \$576,006,389.

During the same period of 1959, net income was \$41,768,855, amounting to \$1.59 per common share, on sales totaling \$511,353,127.

Emergency Funds Allocated for Pesticide Residue Investigation

TALLAHASSEE, FLA.—Although Gov. LeRoy Collins emphasized that "there is no great fear that contamination has occurred or will occur," the Florida state cabinet turned \$27,500 in emergency funds over to the State Department of Agriculture to help pay for mobile laboratories used to check for dangerous pesticide residues on Florida food crops.

Recently, the agriculture department had asked the cabinet to set aside \$101,800 to provide two of the mobile labs to nip in the bud any pesticide residue in excess of the tolerances approved by the federal government.

The matter was referred to a committee for study.

Ray Green, state comptroller, reported the committee recommended expending \$27,500 if the agriculture department and the industry would make up the rest.

The cabinet was told by Lee Thompson, assistant to Nathan Mayo, agriculture commissioner, that the facilities were badly needed. He said the department had taken one of its mobile laboratories off other duties for this work, but it wasn't enough.

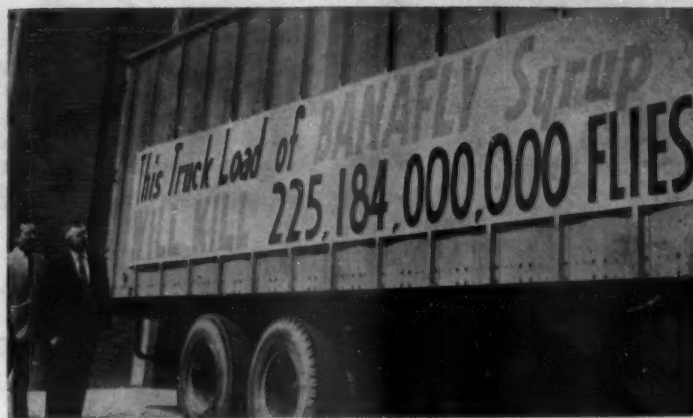
"It could be a critical situation," Mr. Thompson declared, recalling what happened to cranberry growers last year when pesticide residues were found in fall crops.

He said it was hoped the department could match the cabinet release and provide some \$50,000 to get the program started.

International Crop Group to Meet in Denver

FT. COLLINS, COLO.—The International Crop Improvement Assn. meeting will be at Denver Oct. 31-Nov. 3 with Colorado and Wyoming as joint hosts. Charles E. Nelson, assistant extension agronomist at Colorado State University, has announced.

The association which includes representatives of seed certification agencies from 45 states and Canada develops minimum standards for seed certification to be used the following year. States set their own certification standards but they must fall within the limits set by the international association.



BYE-BYE, FLY—Ten tons of "Banafly" syrup loaded aboard this truck is expected to kill some 225 billion flies, according to American Scientific Laboratories, Inc., Madison, Wis., maker of the pesticidal material. The shipment was destined for New Holland Supply Co., New Holland, Pa. Viewing the shipment and its publicity banner are A. W. Tandy, manager of ASL pharmaceutical and chemical production, and T. E. Bronson, company entomologist. The figure of more than 225 billion fly victims is actually a conservative one, according to Mr. Bronson.

'Chemical Progress Week' Observed by Industry

WASHINGTON—The seventh annual "Chemical Progress Week" is being observed April 25-29 by the chemical industry in chemical plant communities throughout the country.

Primary purpose of the special "week" is to focus attention on the changes wrought by advances in science and technology, with particular emphasis on the contributions made by chemistry and the chemical industry.

The 1960 observance will use community safety, food technology and the story behind chemical research as its principal themes, according to the Manufacturing Chemists' Assn., coordinator of the event.

The safety project is keyed to employees, products and the community. It includes a proposal for establishing civil action groups to promote safety

within the home and community. These groups would draw on the experience of such organizations as the National Safety Council and local chemical industry specialists.

TERMITE CONTROL BOOKLET

WASHINGTON—Almost all termite damage can be prevented by taking simple precautions in planning the foundation and construction of homes and other buildings, according to a 30-page booklet issued by the U.S. Department of Agriculture. Subjects covered in the booklet include detection of termites, how to prevent their depredations, and how to stop an infestation that is already started. The publication, titled "Subterranean Termites, Their Prevention and Control in Buildings," was written by R. A. St. George, H. R. Johnson, and R. J. Kowal of the Division of Forest Insect Research of USDA's Forest Service.

Banker Group Gives 'Farming for Profit' Brochure Distribution in New York State

WASHINGTON—Extensive promotion of "Farming for Profit" by the New York Bankers' Assn. among its members is leading to widespread dissemination of the brochure in New York State, according to the National Plant Food Institute.

The 16-page, two-color booklet, published by NPFI in cooperation with Cornell University and the New York Bankers' group, deals with soil fertility and farm profits.

Fifty-seven thousand copies of the publication have been distributed so far to more than 215 New York banks for use by farmers, 4-H clubs, FFA members, and other interested groups and persons.

The New York group, in promoting the brochure, circulated news releases and spot announcements for use in newspapers and radio by member banks, and dispatched personal letters to various individuals and groups.

As a result of the widespread interest of New York banks in the booklet, a second joint banker-educational program on soil fertility has been initiated by NPFI and the New York association. This second project, which was requested by the association, involves furnishing advertising mats on subjects related to sound soil-fertility and the proper use of fertilizer and lime to the association's member banks.

Proof sheets of the mats, for use in local newspaper advertising, were circulated by the association to member banks. To date, 57 banks have placed orders for sets of the mats.

The booklet notes that "farm profits don't just happen, they come

from good business operation coupled with the use of modern scientific practices, and it is good business to use those scientific methods that return a profit."

Attractively illustrated with photographs depicting farming in New York State, the publication explains that "every farm has a 'break-even' point, and a farmer, in producing any crop, has fixed costs. Profits come from yields above the 'break-even' point," the booklet continues. A chart illustrates this principle for alfalfa on a New York farm.

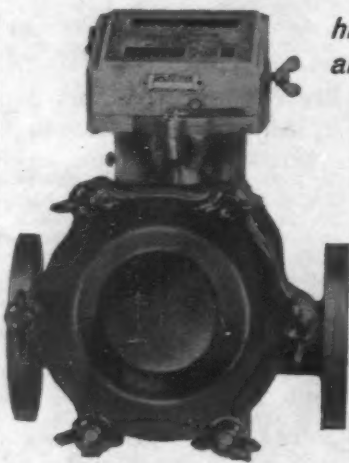
The brochure also cites typical examples of the fixed costs farmers have in producing hay, oats, wheat and corn.

To quote the booklet further, "scientific farming is the only way to beat high fixed costs. This means using recommended amounts of lime and fertilizer, based on soil tests, along with other good farming practices."

Farmers also are encouraged to make use of credit, if needed, to establish a sound soil fertility program. The booklet suggests that to obtain credit for fertilizer and lime purchases, a farmer should: (1) start early—drop in and see his banker as soon as possible; (2) have soil tests made; (3) in the absence of a soil test, obtain Cornell extension bulletins which give latest general fertilizer and lime recommendations; and (4) prepare a budget of all expected farm income and expenses.

The booklet observes that "careful budget planning will impress your banker with your business ability."

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NO PROMISE FOR POMACE

WASHINGTON—Apple pomace containing DDT or the residue of certain other pesticides is not suitable as feed for dairy animals and may not be suitable as feed for meat animals, the U.S. Department of Agriculture has announced.

"Investigations have shown that pesticides of long residual effect, when properly used to control apple pests, may leave residues which are within safe tolerances on fresh apples but are concentrated many times in the pomace," USDA says.

The use of such pomace in animal rations may result in the production of milk containing small amounts of DDT or other pesticides. There is no tolerance for DDT or any other pesticide in milk. USDA fears that meat animals fed pomace for extended periods may accumulate residues in their fat in excess of acceptable levels.

Apple pomace is the byproduct of apple processing for cider or vinegar. Pomace has only limited use as feed for livestock, and agricultural officials in some states have already recommended against its use in feeds. USDA recommends that apple pomace not be used in livestock feed unless it has been determined by analysis or other means that the pomace does not contain DDT or other pesticides in amounts that will result in illegal residues in milk or meat.

Soil Physicist Named Iowa State Dean

AMES, IOWA — Dr. John Boyd Page will become dean of the graduate college at Iowa State University July 1, succeeding Dr. R. M. Hixon, who will relinquish administrative duties at that time under the age limitation ruling.

Dr. Page, 45, a native of Payson, Utah, is presently dean of the college and dean of the graduate school at A&M College of Texas. He received the B.S. degree from Brigham Young University in 1936, the M.A. degree from the University of Missouri in 1937 and the Ph.D. degree from Ohio State University in 1940.

He served on the faculties of the University of Missouri, Ohio State University and the University of California before going to Texas A&M in 1950. He has held his present position there since 1956.

In research he has compiled an outstanding record and is internationally known for work in soils physics and soil chemistry, with fundamental contributions to an understanding of structure, aggregation and stability of aggregates as related to plant growth and productivity of soils. He was one of the first to demonstrate the possibilities of the electron microscope in soil studies. He has shown that cropping systems and tillage practices profoundly affect structure and porosity of soils. On several occasions he has often served as a consultant to foreign countries on soils chemistry problems.

Secretary Flemming To Address Officials

DALLAS, TEXAS — Arthur S. Flemming, secretary of health, education and welfare, will head the list of speakers at the 64th annual national conference of the Association of Food & Drug Officials of the U.S. to be held June 5-9 at the Baker Hotel, Dallas.

Harold Clark, Hartford, Conn., of the Connecticut Food & Drug Commission and president of the association, announced that the conference will also hear expert discussions of current developments in connection with the food additives and color amendments.

The association is the professional society of food and drug enforcement officers in all levels of government—federal, state and municipal.

Grant Received for Study On Forest Fertilization

BLACKSBURG, VA. — W. W. Moschler, agronomist at Virginia Polytechnic Institute, has been notified of a \$10,000 research grant made available by the American Agricultural Chemical Co. to investigate forest tree fertilization. The project will continue for a period of five years, according to the contract. The agreement stipulates that funds shall be used primarily to conduct agronomic phases of forest fertilization experiments including soil classification research, soil sampling, soil analysis, needle and tissue analysis, changes in soil reaction and fertility due to treatments imposed, and the correlation of these changes with responses in rate of growth or quality of wood produced.

Mr. Moschler has been working in the field of soil fertility at VPI since 1948 when he received his M.S. de-

gree in agronomy. He is considered an authority on the use of rock phosphate and his work includes the study of the lime needs of soil in Virginia, and minimum tillage methods.

Pacific Northwest Group Plans Fall Convention

PORTLAND, ORE. — The annual fall convention of the Pacific Northwest Plant Food Assn. will be held Nov. 3-4 at Boise, Idaho, the association board of directors announced.

General convention chairman will be Ralph Nyblad. Trevor Steele and Swede Cummings will serve as program co-chairmen.

In other action the board voted to permit the Agriculture Ammonia Institute to hold a meeting at Salt Lake City, Utah, in conjunction with the annual regional fertilizer conference, July 13-15, provided this meeting is held Friday afternoon, on the final day of the conference.

American Potash To Expand Facilities

LOS ANGELES—American Potash & Chemical Corp. will spend approximately \$25,000,000 for capital improvements over the three-year period 1960-62, Peter Colefax, president, announced in the company's annual report to shareholders.

The program includes expansion of the company's plants at Trona, Cal., and Aberdeen, Miss.

MOVES STORE

ELMA, WASH. — Stroh's Feed & Garden Supply of this city recently moved into its new retail store-warehouse located next to its old quarters on 3rd St. here. The retail store, to be open six days a week, is fully stocked with a complete line of fertilizers, chemicals, packaged and bulk seeds, Oregon roses and bulbs of all kinds, tillers, mowers and spreaders, points out H. A. Bezley, manager.



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105TH YEAR

INSECT, PLANT DISEASE NOTES

Indiana Insects Active; Control Time Nears

VINCENNES, IND.—The first codling moth pupation was noted on April 18. Surveys indicated that up to 66.7% of the overwintering larvae have survived.

Clover mites became active during the warm period of April 12-18.

European red mites were beginning to hatch at Vincennes on April 18. We have found chlorbenzide to be very effective when applied at pink. Growers are advised to watch mite development very carefully.

Aphid eggs hatched by April 11. Populations were scattered, but there are chances for some heavy infestations in the area.

Twelve tarnished plant bugs were jarred from five trees on April 18. Control measures should begin now.

No plum curculio have been jarred from peach trees as yet.

Lady beetles, in addition to predaceous Hemiptera and Hymenoptera, are becoming active in the area.

Adult red-banded leaf rollers were observed at Linton, Ind. on April 12. The first egg mass was found at Vincennes April 14 on Duchess. The time for control is the petal fall period. Tests at Vincennes show that lead arsenate was ineffective against red-banded leaf roller.—Merrill L. Cleveland.

Alfalfa Weevils Found in Georgia Examinations

ATHENS, GA.—Alfalfa weevil larvae were infesting alfalfa at the rate of eight per sweep of the insect net in Hancock County. Examination of buds showed one to three larvae per bud. An average of one larva per five buds was noted in Paulding County.

Light billbug infestations were found on corn in Colquitt, Lowndes, and Pierce counties; moderate infestation in Colquitt County.

Matured plum curculio eggs were found in the bodies of females taken in a commercial peach orchard on

April 6. Therefore, egg deposition in peaches will be taking place in the orchards as soon as the shuck starts to split on the fruit. Plum curculio adults continue to leave hibernation in numbers. As many as an average of 3.8 plum curculios per tree were caught in a commercial peach orchard on April 8.

Mexican bean beetle infestations were spotted on pole and snap beans in Grady and Thomas counties.

Also noted were light to moderate tobacco flea beetle infestations on tobacco in the field in Grady, Thomas, Colquitt, Lowndes, Ware, Pierce and Appling counties.

Spring examinations of surface trash from woods adjacent to old cotton fields, to determine the number of boll weevils surviving the winter, were made in four regions in Georgia from Feb. 29 to April 1, 1960. The average for the state was 407 live weevils per acre of surface trash. This compares with 329 weevils one year ago. Based on the number of weevils found during the fall and comparing with the spring count, the winter survival for the state was 57%. The averages for nine years that records have been taken are 634 weevils per acre and 50% survival.

The average number of weevils per acre and the percentage survival, respectively, for the different areas where samples were collected were as follows: Northwest (Gordon County) 48 weevils and 33%; North Central (Butts, Spalding, Pike, Coweta, and Meriwether counties) 484 weevils and 41%; East Central (Burke County) 290 weevils and 35%; and South (Tift, Atkinson, Berrien, Irwin, and Turner counties) 726 weevils and 100%.

Live weevils were found on 34% of the farms examined during the spring. The maximum number of weevils per farm was 2,420. This number was found on four different farms in three of the areas. Five samples of two square yards each were collected from each of the 50 fields examined. These were the same locations examined during the fall.—W. C. Johnson.

Insect Damage to Trees High in Colorado

KREMMLING, COLO. — Insects and disease destroy twice as much timber as is cut each year in Colorado, according to lumberman Julian H. Bucher here.

He said over 65% of the timber removed from commercial forest land in Colorado each year results from insect and disease damage.

Said Mr. Bucher, "We harvested roughly 150 million board feet in the state in 1959 . . . it's a little staggering to realize that over 300 million board feet was destroyed by nature before we could harvest it."

Mr. Bucher urged better management of Colorado's nearly 8,500,000 acres of timber. He appealed especially for more logging roads to speed the harvesting of timber which might otherwise rot.

Weevils Serious Threat To Alabama Alfalfa

AUBURN, ALA.—Alfalfa, one of the most important hay crops in Alabama, is being seriously threatened by the alfalfa weevil. Infested areas could be completely wiped out if immediate control steps are not taken.

In making this urgent announcement Walter Grimes, Auburn University specialist, says the weevil has been identified in several areas surrounding Auburn. Also reports have been received from Chambers and Montgomery counties of the weevil's presence there.

The survey entomologist points out that this insect was found for the first time in Alabama in Houston County a year ago. With the recent outbreaks and positive identification, Mr. Grimes says he feels sure there is a general spread of the insect in the eastern part of the state.

Immediate control measures that are recommended include the use of malathion, methoxychlor, and parathion. Malathion and methoxychlor should be used at the rate of one to one and a half pounds of technical

material per acre. Parathion should be used at the rate of one-fourth of a pound per acre. These materials may be effectively used as a dust or spray.

One application of any of these insecticides should give effective control of the weevil until after the first cutting. However, careful examination of the plants should be made as soon as possible after growth of the second cutting begins. It may be necessary to apply additional applications of insecticide at this time.

A minimum of seven days from the last application of a recommended insecticide to harvest is a must to prevent toxic residues on the plants.

Corn Borer Populations Explode in Delaware

NEWARK, DEL. — Corn borers have had a population explosion during the past two years that makes the rapid human population rise seem like second grade arithmetic.

The borers set a new record in Delaware in 1958 with 248.5 borers per 100 stalks, a terrific jump from 1957 when the count showed only 90 borers per 100 plants.

Last year the borers reached another record-breaking high of 394 borers per 100 stalks or nearly four per plant!

The borers feed on the corn plant, slowing its growth and preventing it from reaching full normal size. Even greater losses occur when borer-weakened stalks fall over, preventing normal harvest with the corn picker.

When corn borers team up with corn earworms, sap beetles, stalk rot and low prices, as they did last year, the farmer is really in trouble, says Dr. Dale F. Bray, chairman of the department of entomology at the University of Delaware.

In terms of cash, last year's losses of 1,318,000 bu. of corn in Delaware alone, kept a million and a half dollars out of farmers' pockets.

The trouble is that many of the borers that did the damage last year have wintered over in old corn stalks and other plant trash.

Dr. Bray urged farmers to plow old corn stalks and stubble under before the borers can reproduce. Many borers won't be able to make their way to the surface and will die underground. Those that do come up to the bare surface will either die of exposure or will be eaten by birds.

Arkansas Officials Examine Fire Ant Control Results

EL DORADO, ARK. — Arkansas and federal officials are conducting an extensive survey in Union County to determine if recent fire ant control and eradication measures have stamped out the pest.

Fourteen inspectors are searching all areas adjacent to treated sections of the county and several miles in each direction, according to John M. Cravens, county agent.

Although no fire ants have been found to date in the areas treated in past years, a few scattered mounds have been discovered in scattered areas of the county.

Officials said the mounds apparently resulted from the natural flight of the queen ants. Even though the normal movement of the queens is in the spring, it is thought there was some migration during the warm days of winter. Queens leave their "home" mounds to start new colonies, it was noted.

During the past three years, a total of 43,000 acres of land has been treated in an attempt to rid the county of the fire ants. In 1957, when the pests were first discovered, 12,000 acres were sprayed. Almost 7,300 acres were treated in 1958 and 25,000 acres in 1959.

Walter Tullis, local supervisor of the U.S. Department of Agriculture's plant pest control operation, and Carter Seymour, head of the plant pathology and entomology department of the State Plant Board, are directing activities. They said the

strongest and most efficient spreader body ever built!



BAUGHMAN'S K-5

LIME and FERTILIZER SPREADER

Baughman engineering insures you:

LOWER MAINTENANCE COST... thanks to rugged construction, fewer parts and reliable Baughman quality throughout.

BETTER SPREADING... because you can accurately regulate the number of pounds spread per acre and be sure of uniform distribution.

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GREATER VERSATILITY... the chance to select the drive, conveyor and distributor that best answers your spreading needs.

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Write for Bulletin A-424.



BAUGHMAN MANUFACTURING COMPANY, INC.

310 SHIPMAN ROAD

JERSEYVILLE, ILLINOIS

present survey is the most thorough and will be finished around May 1.

Officials hope to soon eradicate the pest completely. They have requested the aid of residents of the area in reporting discoveries of colonies of the ants.

Officials reported that the control of ants has been made easy by the cooperation of local residents. When new colonies are reported, they are sprayed before they spread further.

The spraying has helped control a number of other harmful insects, officials said. "Surveys show that the number of ticks has been substantially decreased. And chiggers, May beetles and crawfish have been successfully controlled. Temporary control of mosquitoes and flies was also obtained," Mr. Cravens reported.

When the present survey is completed, new plans will be formulated to reach toward a goal of complete eradication.

The survey and treatment program, officials pointed out, is part of a nationwide plan to eradicate fire ants. Federal, state, and local money was used in fighting the South Arkansas outbreak.

Started in May of 1957, the Union County battle has been one of the largest of its type in the nation.

Canadian Planes Planned For Spruce Bud Worm War

FREDERICTON, CANADA—According to a story in the Toronto Financial Post, the city of New Brunswick has renewed its war against the tree-destroying spruce budworm. The project will probably cost some \$2 million during the year and will involve about 100 aircraft, the report stated.

The aerial spraying program will cover some 2.5 million acres.

Forest Protection, Ltd., a crown corporation composed of representatives of pulp and paper companies, and the provincial government, will carry out the operations.

LOVE THAT WINTER

BATON ROUGE, LA. — The past winter was pretty tough on people but apparently the boll weevils found it rather mild. The U.S. Department of Agriculture Cotton Insect Laboratory at Tallulah says that ground trash examinations in three Northeast Louisiana parishes indicate that twice as many weevils survived this winter as lived through the winter of 1958-59. Laboratory entomologists report finding an estimated average of 4,784 live weevils per acre in the three parishes where trash studies were made, as compared to 2,246 live weevils per acre found in the spring of 1959. In one parish, where trash examinations have been made each spring for 25 years, the number of live weevils found was 9,033 per acre, the largest number on record.

The amount of damage to be done by boll weevils this year will depend, of course, on weather during the cotton growing season—weevils thrive in hot damp weather—and the effectiveness of insect poisoning done by cotton growers. But the large number of weevils surviving the winter does indicate the possibility of a heavy infestation should the weather be right for spread and increase of the insects. The time for growers to begin planning their insect control program is now. They will need to keep a close check on the numbers of boll weevils and other damaging insects found in their fields and to be ready to use the insecticides recommended by experiment station and extension service entomologists.

The past winter was nasty enough, but maybe it just didn't get quite cold enough or stay that way long enough to kill off the weevils that hibernate in ground trash.

Firm Founder Dies

KANSAS CITY — Oscar T. Cook, Sr., founder and former chairman of the board of Cook Chemical Co., here, died recently at Orlando, Fla.

Mr. Cook, who was also former vice president of the Standard Milling Co. in Kansas City, had been living in Clermont, Fla., since his retirement from the milling company post about seven years ago.

BRANCH STORE OPENS

SALEM, ORE. — A new branch store of the Western Farmers Assn. has been opened here at the 1505 Front St. N.E., location of a poultry processing plant of the same group. The Salem outlet will specialize in production supplies such as seed, fertilizers, formula feeds and petroleum products, according to William Starkey, manager. This store will service the Willamette valley from Oregon City south to Albany.

SNAIL MARCHES ON

NEW YORK—Sharp-eyed customs inspectors are the key defense in a little known biological war that poses a major threat to U.S. crops.

According to an article in the May issue of *Coronet*, a giant African snail is attempting, so far without success, to invade our country. This invasion of our shores is the latest lap in the slow-but-sure, earth-circling journey of the Goliath snail. The giant snail has 80,000 file-like teeth set in a conveyor-belt tongue and a buzz saw appetite. It has made eight attempted invasions of the U.S. to date. It has been smuggled in by returning tourists. It has hitchhiked hidden in the mud of Army jeeps, and it has been concealed in cargo arriving from the Far East. So far, its attempts have always been detected but it keeps trying.

The most recent onslaught concerned an unidentified Arizona farmer who allowed his son to return from Honolulu with two of the snails buried in his luggage. The boy wanted them for pets. Luckily word of the snails reached the University of Arizona zoologist, Albert R. Mead, who ordered them destroyed. The unsuspecting farmer never realized that with the terrific reproduction rate of the Goliath snails in five years his son's two "pets" could have sired 22 billion progeny.

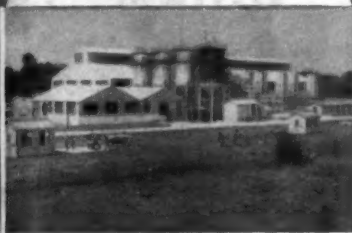
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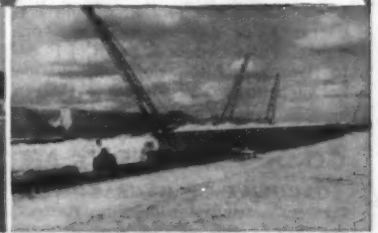
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Solid or Molten Sulphur to all users in the United States and Canada

In addition to these six producing properties, stocking and distribution centers are being set up, thus broadening the TGS Service to industry. Ample supplies of both molten and solid sulphur will be available at these centers. Cincinnati, the first of these units, is now in full operation.



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Southern Plant Board Names Officers; Calls Fire Ant Eradication Program 'Gratifying'

BILOXI, MISS. — The Southern Plant Board re-elected E. A. Canienne of Baton Rouge, state entomologist of Louisiana, chairman of the group's board to serve his second consecutive term, along with Carter Seymour, Little Rock, Ark., of the Arkansas State Plant Board, as vice chairman.

The Southern Plant Board represents the plant regulatory agencies of 11 southern states and the Commonwealth of Puerto Rico.

The group which met at the Buena Vista Hotel in Biloxi to discuss plant pest problems, also elected H. L. Bruer, Nashville, Tennessee State Department of Agriculture, secretary-treasurer.

R. P. Colmer, State College, chief inspector of the State Plant Board of Mississippi, and E. G. Cowperthwaite, Gainesville, Fla., plant commissioner of the Florida Plant Board, were elected as southern members of the National Plant Board.

A major issue on the agenda was the imported fire ant. It was agreed by the board members that results from the eradication program which has been instituted in the nine infested states of the eleven member states, were gratifying and warranted the continuation of an aggressive program to eventually eliminate the pest. Eradication, however, is not in the foreseeable future they stated.

It was noted that \$2,400,000 has been made available in federal funds to match state funds appropriated for the fire ant program this year. Mississippi will request \$200,000 from the Legislature for the program this year.

Continued research on finding more effective and cheaper methods of control will be supported by the plant board. Some of the research is being carried on at the USDA plant pest control research laboratory at Gulfport, which board members visited while in Biloxi last week. Their research involves the use of attractants, lures and newer insecticides.

Juan Lojo, San Juan, chief of the plant quarantine section of the Department of Agriculture and Commerce of the Commonwealth of Puerto Rico, noted the close cooperation between his country and the U.S. in

the matter of shipping plant material.

Mr. Lojo said at least 50% of the ornamental foliage plants shipped from Puerto Rico are sent to the southeastern area of the U.S. He said Puerto Rico is dependent to a large extent on imported plants for food.

The board said new fumigating and treating facilities are to open about July 1 in the old terminal at Moisant Airport in New Orleans and will be one of a very few such facilities in the country. It will be a federal agency operated by the foreign plant quarantine division of the USDA.

Another program which was discussed by the group of particular interest to the South is the Pink Bollworm program. This insect having been introduced into this country from Mexico in 1917 is now estab-

lished in the states of Texas, Oklahoma, New Mexico, Arizona, Louisiana and Arkansas.

Considered one of the major cotton pests, the plant board said considerable effort is being expended by the respective plant quarantine agencies in the infested states to reduce populations of the insect and eradicate it.

Dr. Dial F. Morton, in charge of the cotton insects research laboratory at Brownsville, Texas, reported to the group on new developments in Pink Bollworm research into new methods for control of the insect by the use of radiation, parasites, insecticides and diseases.

The White Fringed Beetle, Japanese Beetle, sweet potato weevil, sweet potato mosaic, Mediterranean Fruit Fly, Camellia flower blight, Khapra beetle, and Hoja Blanca program, of major concern to many of the states represented, were discussed with reports from the various states.

New Director of Plant Protection in Canada

OTTAWA, CANADA—Dr. Christian W. Farstad, 53, new director of the plant protection division, Canada Department of Agriculture, was formerly in charge of the entomology division's laboratory in Lethbridge, Alta. He gained wide recognition for his research on the wheat stem sawfly problem.

Dr. Farstad was born in Lofoten, Norway, but was reared on a farm in the Kinistino, Sask., area. He attended teachers' college in 1925-26 and taught school for two years. He graduated with honors in biology from the University of Saskatchewan in 1931, receiving his master of science in entomology from the same university two years later. He obtained his Ph.D. in 1940 from Iowa State University.

"Red" Emm shows you...

**HOW MONSANTO
WEED KILLERS
BUILD STORE TRAFFIC
...HELP YOU SELL!**



CO-OP FERTILIZES BY AIR

GARDEN CITY, KANSAS—Wheat farmers around Garden City, Kansas, are "up in the air" because of crop land too wet to allow heavy fertilizer equipment on it.

Beginning March 25 and continuing for the next few weeks, many farmers were getting their spring wheat fertilized by air, through the Garden City Cooperative Equity Exchange. By March 28 about 50 tons already had been spread on 1,200 acres, and the light plane was working at the rate of about an acre per minute.

"We were pressed for time," said Bill Galloway, feed department manager. "With the weather as it was, it was the only way we could get over it."

Don Fourier, who's spearheading the organization work, said that after watching the method work at Sublette, Kansas, the co-op set up a demonstration March 25 on the Bernard Kraus farm near Lowe. Requests began pouring in immediately.

To drop the dry ammonium nitrate fertilizer, the plane whistles along at 10 to 20 ft. above the ground. "We've timed it," said Mr. Fourier, "and to apply 1,250 lb. it takes just six minutes from the time the plane starts loading until it has made its run and is back on the ground for the next load. And there have been no complaints on the uniformity of spreading."



**New "Red" Emm SUPER-6
CONCENTRATES! Brush Blitz,
Crop-Guard Weed Killer,
Brush-O-Cide, and Field Clean
Weed Killer... a new line of
6-lb. formulations that give your
customers more "kill" at a lower
cost...two cans do the work of
three! These SUPER-6's spray
50% more acreage than
ordinary 4-lb. formulations.**

John Metzen Named To Chemagro Sales Staff

KANSAS CITY, MO. — Chemagro Corporation has announced the appointment of John Metzen as the firm's sales representative in the St. Joseph, Mich., area.



John Metzen

Prior to joining Chemagro, Mr. Metzen had been sales manager for the Haviland Agricultural Chemical Co. Earlier he worked in the sales division of Standard Oil Co. (Indiana).

A native of Kalamazoo, Mich., Mr. Metzen attended St. Augustine High School and Western Michigan College.

Chemagro has headquarters in Kansas City, Mo.

Texas Court Makes Insurance Firm Pay Widow of Duster

AUSTIN, TEXAS — An insurance company here has been ordered to pay claims for the death of a crop duster who was killed only a few days after he had been employed. The Texas State Supreme Court ruled that the widow is entitled to death benefits of Paul J. Sullivan who died in 1954 in the crash of his crop-dusting plane.

The industrial accident board had denied recovery, but a district court jury found Mrs. Sullivan was entitled to an award. Her late husband had been employed by John S. Bavousett of the Bavousett Fertilizer and Chemical Co. which also operated the Better Crop Dusting Co. The insurance firm claimed its policy covered only the fertilizer and chemical company and not the allied crop dusting firm. Mr. Bavousett was also killed in the plane crash.

"Where an employer procures coverage for a part of his employees under the Workman's Compensation Act, this coverage will extend to all other of his employees who work in the same general class of business," Judge Meade Griffin said. He also said there was sufficient evidence to sustain the jury's finding that Mr. Sullivan was employed by Mr. Bavousett.

Judge Joe Greenhill, joined by Judge Frank Culver, Jr., dissented. The opinion said there was a considerable difference in the insurance risk of an employee selling seed and fertilizer and a crop dusting pilot. The opinion stated it was not believed insurance "was purchased to cover the hazardous work of a crop duster."

APPLE EATERS HAPPY

SACRAMENTO, CAL. — For the first time since 1925, Californians will soon be able to buy fresh eastern apples, or may bring them into the state under certificate, showing treatment at origin prescribed by the California Department of Agriculture.

For many years, easterners in California have been denied their McIntosh and other favorite varieties of apples because there was no satisfactory treatment to kill apple maggot and plum curculio. These pests, not occurring in California, attack apples, apricots, cherries, peaches, pears, plums, nectarines, blueberries, haws and quinces.

All these fruits, with the exception of apples, will continue to be excluded until a satisfactory pest killing treatment is developed for them.

But the McIntosh apple, a favorite eastern variety, and other apples previously banned, may now be shipped to California due to a discovery made in connection with a cold storage process, featuring controlled atmosphere.

Vulcan Names Two Sales Executives



David W. Lynch



Donald R. Hoover

BIRMINGHAM, ALA. — Vulcan-Associated Container Companies, Inc., Birmingham, has announced the appointment of David W. Lynch as general sales manager and Donald R. Hoover as assistant sales manager. The announcement was made by Gordon D. Zuck, president.

Mr. Lynch will headquarter at the company's executive offices in Birmingham. He was formerly sales manager-National accounts, for Vulcan Steel Container Co., an associated company.

Mr. Hoover, who will have his office at Bellwood, Ill., was formerly associated with Vulcan Containers, Inc., and is well known by container users.

Vulcan-Associated Container Companies, Inc., has seven modern, progressive steel container manufacturing plants serving the paint, chemical, petroleum, food, insecticide and ink industries from coast to coast.

Farm Field Day

COLLEGE PARK, MD. — The first Field Day at the University of Maryland Agronomy-Dairy Forage Research Farm will be held June 7. The farm is located near Ellicott City. Much work on the 922 acre farm has been accomplished in the past two years in converting it into a research unit of the Experiment Station for studying forage and dairy problems. Object of the Field Day is to explain the farm's operations and to present results of research conducted so far, says Dr. James L. Cason, extension dairyman of the university.

DUSTER KILLED

McKINNEY, TEXAS — A Dallas crop duster was killed near here when his plane crashed on the James Griffin farm. The pilot was Donald Taylor, 29, who was flying for the Gordon Jones Flying Service of Plano. Mr. Taylor was killed when his plane struck a power line and crashed after its engine failed.

Here's a free double-barreled direct mail program that really brings the customers in... a tried and proven traffic builder... just stock 100 gallons of any combination of Monsanto weed and brush killers. Monsanto will send out two mailings to 100 of your top customers. The first mailing invites them to come into your store... the second mailing offers them a \$1.00 pack of farm utility needles absolutely free! You get 200 mailings and 100 of these useful needle packs at no charge.



Grassy-Weed Killers! Randox® and Vegadek® — new spray-as-you-plant weed killers — knock out grassy weeds in corn, soybeans, and vegetables. Exclusive products for higher dealer profits.



Easy-to-use containers that "tell" and "sell"! These new 5-gallon spout-top cans almost sell themselves. Each can tagged with complete "how-to-spray" instructions written in plain language.



Monsanto advertising sells and re-sells your customers! Your customers will see "Red" Emm products advertised in Farm Journal, Progressive Farmer, Farm Quarterly and many state farm papers.



Lifelike display of "Red" Emm solves weed problems! Giant display with the "dial-the-crop" selector answers customers' questions for you tells just what weed killer to use.

Monsanto

Monsanto Chemical Company, Organic Chemicals Division
Agricultural Chemicals Department, St. Louis 66, Missouri

Sounds good! Please send me more information regarding the new Monsanto Weed and Brush Killer line.

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Learn how Monsanto can help you all more in 1960. Mail this coupon right now (while you are thinking about it) and get all the money-making facts.

LOCUSTS

(Continued from page 1)

world's population is expected to be benefited.

Most of the application of pesticides will be done by air, with aircraft being furnished by participating governments. At the same time, intensive ground operations will be carried out in areas where the insects breed and feed and where the swarms originate. In many areas, this will mark the first time that modern devices for insect control have ever been used. Heretofore, only primitive methods, if any at all, have been employed.

One of the United Nations' officials recalled that the desert locust has plagued the peoples of the Middle East, Africa and Southeast Asia since Biblical times. He said the scourge "represents a drain of many millions

of dollars on the economies of the afflicted countries."

The Special Fund is an eighteen-month-old United Nations agency for long-range aid to less developed areas. It is headed by Paul G. Hoffman. Forty per cent of the fund's budget is subscribed by the United States.

Special Fund aid for the anti-locust fight amounts to \$2,492,700, the agency's largest contribution to any individual project. Participating governments have pledged \$1,373,100 in cash.

The Food and Agriculture Organization, which has ten years of experience in locust control, was appointed executive agency for the new drive. Dr. Norman Wright, deputy director general of the organization,

urged the cooperating governments not to relent in their national campaigns to combat the desert locust.

Signatories of the agreement on April 9 were Britain, Ethiopia, France, Ghana, India, Iran, Iraq, Lebanon, Morocco, Pakistan, Somali under Italian administration, Tunisia and Turkey. Cooperating with them are Jordan, Kuwait, Saudi Arabia, the Sudan, the United Arab Republic and Yemen.

Israel, which is also affected by the desert locust, remained outside the project.

FILLS VACANCY

SAN FRANCISCO, CAL.—Dr. Daniel G. Aldrich, Jr., dean of the college of agriculture, University of California, Berkeley, was appointed by Gov. Edmund G. Brown to fill a vacancy on the State Board of Agriculture, a post which has been vacant since Harry R. Wellman of Berkeley resigned last year.

Ultraviolet Ray Alters Herbicide Potency

WASHINGTON—Diuron and monuron, widely used herbicides, lose effectiveness after prolonged exposure to ultraviolet light, found in sunlight, U.S. Department of Agriculture agronomists report.

Loss of effectiveness can seriously hamper weed control with these chemicals in crop growing areas of little rainfall and much sunshine, according to Lyle W. Weldon and F. Leonard Timmons of USDA's Agricultural Research Service. Their studies may explain, in part, why herbicides sometimes fail to be effective in arid areas such as is found in parts of the western U.S. They believe that chemical decomposition of both weed killers may take place before they are carried into the soil by rainfall or irrigation. Industry researchers have already shown that the effectiveness of monuron is reduced 83% after 148 days of exposure to sunshine.

In laboratory tests conducted in cooperation with the Wyoming Agricultural Experiment Station, the two scientists recorded a 75% reduction in the effectiveness of each chemical after it had been exposed to ultraviolet light for 23 hours. This period of time is equal to approximately 8 to 12 days of full sunshine. However, extensive field research is necessary before any definite daily equivalents can be determined. Measurements of potency were made with oats planted in soil that had been treated with each of the herbicides after the chemicals had been exposed to ultraviolet light.

Decomposition of the chemicals seemed to increase gradually with an increase in illumination intensity, and diuron tended to break down faster than monuron, the tests showed. Although the artificial illumination used in the laboratory experiments was similar to normal sunshine, it also included wavelengths of ultraviolet radiation not found in the sunshine that reaches the earth.

Diuron and monuron are used to control annual grasses and some broad-leaved weeds in certain crops. This research by ARS scientists is part of a continuing program to determine what happens to herbicides after they have been applied to plants or soil.

FISH

(Continued from page 1)

cides to eliminate the ants without causing injury to livestock or wildlife.

At the present time, Department of Agriculture officials have not hit upon any clearcut solution to the problem of the fire ants, and grave concern exists in regards to the loss of thousands of bream, bass and other fish.

In the five Mississippi counties affected—Forrest, Lamar, Jones, Covington and Marion—entomologists estimate losses at one third to one half of all the fish in ponds and fear losses are much heavier and more widespread than early reports indicated. Fire ants are prevalent in about forty Mississippi counties.

In the past sportsmen have objected to the fire ant control program inaugurated in 1957 as being harmful to fish and wildlife. However, Mr. Fancher said there is no danger from the chemical compound in use if proper procedures are followed in administration and treatment for the ants.

Although the critical situation is presently restricted to five counties in Mississippi, officials are conducting a survey of ponds to determine if the ants are present.

Mr. Fancher noted that areas in Mississippi and Alabama in which fish deaths have been reported have had similar conditions recently—warm weather when the fire ants swarm, and heavy rainfall which would wash the swarming fire ants into ponds.

"And when you need nitrogen
you need **VITREA**"



"Most crops take a lot of nitrogen out of the soil. That's why we replace it every year with John Deere VITREA. There's 45% nitrogen in VITREA . . . much more concentrated than other types of bagged nitrogen fertilizer . . . so it's easier to handle . . . saves time for other work during the busy season. Vitrea won't corrode our equipment either. And it feeds the crop as it grows . . . resists leaching. Remember, son, a good farmer uses his time wisely . . . takes care of his equipment . . . follows soil test recommendations . . . and when extra nitrogen is needed, he uses VITREA."



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DEERE & COMPANY

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ORDER NOW.
PROMPT DELIVERIES!



WAREHOUSE facilities at the Cottonwood Farm Bureau Service Co., Windom, Minn., are lodged in a 60 ft. by 150 ft. building.



THE COTTONWOOD firm believes in pushing fall fertilizer sales. Here a worker spreads with one of the company's units.

'Service' Is Middle Name For Minnesota Company

By J. I. SWEDBERG
Creslife Special Writer

"Service is our middle name," says C. W. Keck, manager of the Cottonwood Farm Bureau Service Co. at Windom, Minn.

That principle has been important in building the fertilizer dollar volume up from \$82,000 in 1949 to \$300,000 in 1959. "Competition is tough and will be so in the future," Mr. Keck says. "Service is the best means we have of combatting it."

Total volume handled in 1959 was 5,500 tons, half of which was bagged material, the other half bulk. The bulk material, he says, included 11 carloads of liquid nitrogen.

The service given is largely application of fertilizer for customers.

Included in the equipment which the company has are three bulk truck spreaders for dry fertilizer, and a new truck and box valued at \$6,000.

Three tractor units, made up of a tractor and spreader are also maintained. A used unit like this can be set up for \$2,500, Mr. Keck says. The

units include two mounted spreaders and one spreader that is towed.

"For farmers who want to apply their own dry fertilizer we have nine spreaders valued at \$300 each that we lend to those who buy our fertilizer."

For applying liquid nitrogen six machines are employed with two applicators and one truck forming a unit. The truck is equipped with a 560 gal. steel tank, each truck keeping two applicators supplied in the field.

Mixed complete liquid fertilizer to the extent of 40-50 tons a year is furnished to customers who have their own applicators.

Mr. Keck says that liquid materials can be used over a wider variation of soil conditions than is the case with anhydrous ammonia. Therefore the latter material is not stocked. The liquid, he points out, can be applied 2 to 4 in. deep while anhydrous needs to be placed 6 to 8 in. in the soil.

Charges for application are 50¢ per acre for dry material, and \$1 for liquid nitrogen.

The life span of a truck spreader, Mr. Keck notes, is five to six years provided it is kept in repair. "Anytime you deal with fertilizer," he says, "you have corrosion."

Towed spreaders used with tractors are valued at \$350 each.

"We prefer truck spreaders, since they cover more ground, although the farmers like the tractor drawn outfits."

A truck outfit will spread up to 150 acres a day as against 80 to 90 acres for a tractor drawn machine. With one exception, the company owns the truck outfits, Mr. Keck notes.

The acreage covered in an average year is 8,000 acres for liquid, and 22,000 acres for dry material, but in 1959 the acreage dropped due to wet weather.

Complete liquid formulations may have a place in the future, Mr. Keck thinks, but as of now they are a little higher priced.

Popular formulations used in the area include liquid nitrogen which all goes on corn; in dry mixes, 8-24-12 (Turn to SERVICE, page 17)



THE MODERN main office and storage building of the Cottonwood Farm Bureau Service Co. is in Windom, Minn.

'Seeing Is Believing' Adage Helpful in Dealer Sales Pitch

By GEORGE P. TEEL, JR.

"Seeing is believing!" It's an old adage but one with a lot of meaning when it comes to selling new ideas in crop management.

Farm and field demonstrations have been around for years, used by extension services, chemical and equipment companies, vocational-agriculture teachers and dealers. Despite this, a surprising number of farmers have not been exposed to demonstrations, a fact revealed by the recent National Plant Food Institute survey covering the influence of various media on fertilizer usage.

Don't have time? It doesn't take a great deal. Admittedly, the groundwork usually must be laid during the busy period for both farmers and dealers.

Just as in crop management, much of the success is in the planning . . . the time required is not great, especially when compared to the potential return.

Selecting the Practice

To get broad interest a practice must, of course, be one that is needed in your community, one that offers financial return, savings on labor, increased crop quality or some other benefit to a majority of your crop growers.

The subject you select should be a simple, practical one, not a combination of practices. Ideally, it

will meet the "eye ball" test—be readily apparent to the eye without special analysis or measurement.

Here are some suggested practices that might be used as basic crop demonstrations:

● **Variety or Hybrid Comparisons.** An old stand-by but often dramatic. If you have just a few bushels or pounds of something brand new, this is an excellent means of demonstrating the value to as broad a group as possible.

● **Optimum Fertilization.** Feeding crops for maximum yields, compared to average practices in your community. Don't forget to begin with a complete soil test.

● **Weed Control in Cash Crops.** General weed control, broadleaf pests, grassy weeds or a special problem in your area. Often dramatic too on forage acres.

● **Nitrogen on Grass.** Often shows a tremendous response on straight grass, or where no more than one fourth of the stand remains as legumes. Consider also application of complete mixed fertilizer or "0" goods on forage, again based on soil tests.

● **Brush Control.** Pick a hedge row, fence line or pasture with a good stand of susceptible species. The new, granular brush killers offer real sales appeal.

● **Insect or Disease Control.** There is always something new in this area (Turn to SEEING, page 18)



C. W. KECK is the manager of the Cottonwood Farm Bureau Service Co. in Windom, Minn.

WHAT'S NEW

IN PRODUCTS • SERVICES • LITERATURE

To obtain more information about items mentioned in this department simply: (1) Clip out the entire coupon in the lower corner of this page. (2) Circle the numbers of the items of which you want more information. Fill in the name and address portions. (3) Fold the coupon double with the return address portion on the outside and fasten the edges with a staple, cellophane tape or glue. (4) Drop in the mail box.

No. 6055—Calendar Promotion

Douglas Chemical Co. announces it has again prepared a two-year, color calendar featuring pictures of the 12 most troublesome bugs with which grain storers have to contend. Ac-



cording to company literature, the calendar was so popular for the 1958-59 period, that it prompted reprinting it for the 1960-61 period. For copies, check No. 6055 on the coupon and mail.

No. 6053—Spray Hose Data

Literature covering the line of agricultural spray hose of the Swan Rubber Co. is available. Types of agricultural spray hose described in the new literature include low pressure, medium pressure, high pressure and hand spray. Information on applications, cover, reinforcement, tube, lengths, packaging and recommended couplings is outlined with each hose illustration. Special reference sections illustrating and describing various agricultural hose couplings plus the company's manufacturing facilities are included. For copies, check No. 6053 on the coupon and mail.

No. 6054—Sprayer Brochure

Hahn, Inc., announces the availability of a 16-page brochure and catalog on its 1960 line of Hi-Boy self-propelled high-clearance sprayers and accessories. The brochure illustrates uses of the sprayers for corn, cotton, tobacco and other crops. For copies, check No. 6054 on the coupon and mail.

No. 6056—Improved Lawn Food

Swift & Co. announces greater coverage, higher nutrient content, ease of handling and a formula designed for grass in its 1960 line of Golden Vigoro Lawn Food. It is now packed



in 35 lb. bags, with a coverage of some 5,000 sq. ft., the company says. For more information, check No. 6056 on the coupon and mail.

Also Available

The following items have appeared in previous issues of Croplife. They are reprinted to help keep dealers on the regional circulation plan informed of "What's New."

No. 6043—Nitrogen Analyzer

An automatic nitrogen analyzer has been released by Coleman Instruments, Inc. According to company literature, the unit, within its 12 to 15 minute cycle, performs a complete determination of nitrogen content. It will measure nitrogen in an almost unlimited variety of materials, the



company says, including foods, fertilizers and chemicals. For more information about the unit, check No. 6043 on the coupon and mail.

No. 6048—Selective Weed Killer

"Butoxone," a selective weed killer designed to control many broadleaf weeds in alfalfa, red clover, birdsfoot trefoil, alsike and ladino clovers, has been announced by Chipman Chemical Co., Inc. The product contains 2,4-DB and, according to company literature, tests and recent commercial use have proved its weed killing

effectiveness without effect on the specified crop. It is a liquid and is applied as a spray in either the seedling or established legumes grown for seed. Complete information can be secured by checking No. 6048 on the coupon and mailing to this publication.

No. 6050—Spraying Gauge

A gauge, with direct reading in "gallons per acre" and designed to be mounted on crop spraying units, usually directly behind the tractor or jeep driver, has been announced by Mayrath, Inc. The gauge is for use with either 5 gal. or 8 gal. tips spaced 20 in. apart and gives gallons per acre of insecticide or weed killer being sprayed at speeds of three, four or five miles an hour, the company says. The gauge also shows pounds per square inch pressure, however, in



case the operator wants to use conventional charts. For more information, check No. 6050 on the coupon and mail.

No. 6044—Fertilizer Unit

International Harvester Co. has introduced a fertilizer unit, which it says will enable once-over planting immediately after plowing through the use of a wide packer wheel that



compacts soil ahead of the planter furrow opener. For use with the McCormick No. 185 beet or bean planter, the unit eliminates seedbed preparations and saves time, labor and fuel, the company says. The unit mounts on a tool bar ahead of the planting unit and features a 115 lb. fertilizer hopper. In addition to compacting soil over the fertilizer, the packer wheel also provides a firm bed for seed deposited at uniform depth by the planter furrow opener. A contour press wheel, behind the planter, firms soil over and around the seed while the center ridge applies additional pressure directly over it. For details, check No. 6044 on the coupon and mail.

No. 6051—Spray Nozzle

Delavan Manufacturing Co. has announced the development of a new spray nozzle. Called the Delavan BX, the tips are designed to offer additional coverage for spray booms at flow rates consistent with standard boom nozzles. They are available from 5 GPA through 10 GPA. Manufactured as both single and double nozzle, the BX offers additional coverage ranging from 68 in. to 104 in. for single nozzles and from 153 in.

Send me information on the items marked:

- ☐ No. 6043—Nitrogen Analyzer
☐ No. 6044—Fertilizer Unit
☐ No. 6045—pH Meter
☐ No. 6046—Bulk Material Hauler
☐ No. 6048—Selective Weed Killer
☐ No. 6049—Power Sprayer Dispenser
☐ No. 6050—Spraying Gauge

- ☐ No. 6051—Spray Nozzle
☐ No. 6052—Tractor Mounted Sprayer
☐ No. 6053—Spray Hose Data
☐ No. 6054—Sprayer Brochure
☐ No. 6055—Calendar Promotion
☐ No. 6056—Improved Lawn Food

(PLEASE PRINT OR TYPE)

COUPON NOT VALID AFTER 60 DAYS

NAME

COMPANY

ADDRESS

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
 PERMIT No. 2
 (Sec. 312,
 P. L. & R.)
 MINNEAPOLIS,
 MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

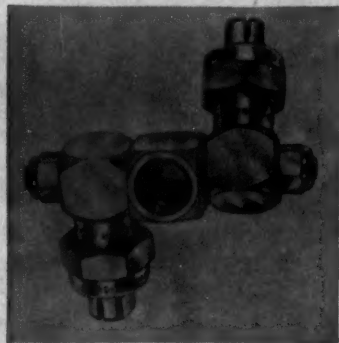
Croplife

P. O. Box 67

Reader Service Dept.

Minneapolis 40, Minn.

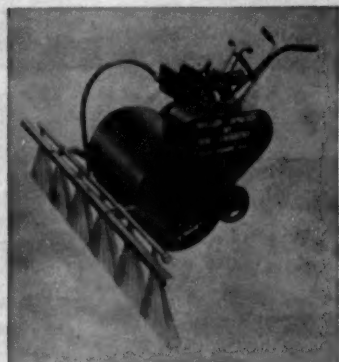
to 194 in. for double nozzles when both are placed at 30 in. boom height, the company says. The single nozzle can be used for boom extensions or roadside spraying. A swivel nozzle



mounting is recommended for easier adjustments. The double nozzles are well suited for small broadcast sprayers. For more information, check No. 6051 on the coupon and mail.

No. 6049—Power Sprayer

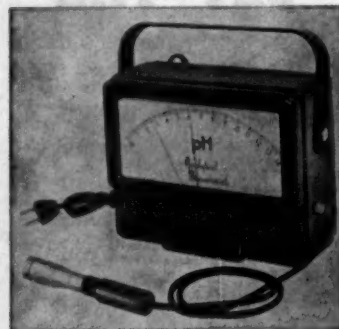
A self-propelled power sprayer that applies a consistently even spray pattern aided by nozzles spaced 12 in. apart, has been announced by Sun Industry, Inc. The uses include lawn



weeding, tree spraying, fertilizing, power lawn rolling and general spraying for small orchards. The power driven, 30 gal. roller drum contains the spraying material and acts like a huge wheel transporting the fluid with a minimum of compaction, the company says. Baffling within the drum provides a concrete mixer type of agitation. A 6 ft. boom is recommended for easy maneuvering around trees and shrubbery, but booms up to 13 ft. are available. The pump has a 5 gal. per minute capacity at 150 lb. pressure. For complete information, check No. 6049 on the coupon and mail.

No. 6045—pH Meter

Analytical Measurements, Inc., announces the model 700 "Big Scale pH Meter," which is designed to read pH



values within .02 pH. The 5 lb. unit is portable and can be used wherever a standard 115 volt AC outlet is available. Features include a big scale so that it can be read quickly, a single operating control and a high output electronically modulated amplifier. The polyethylene electrode probe unit permits the user to bring

the meter to the sample, the company says. For more information, check No. 6045 on the coupon and mail.

No. 6052—Tractor Mounted Sprayer

Hanson Equipment Co. announces a "Trak-Pak" sprayer unit that

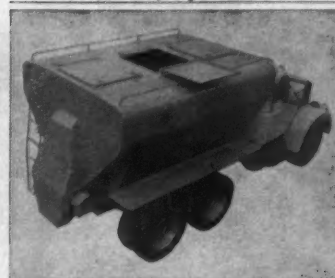


mounts on any standard three-point hydraulic hitch. The unit can be

equipped with either a boom or "Brodjet" sprayer. It is available with a choice of piston-type or nylon-roller-type pumps. Chemical particles are kept in suspension by a propeller-type mechanical agitator. A universal joint drive shaft from the tractor PTO powers the pump-agitator assembly. The 100 gal. fiberglass tank is completely inert to all agricultural chemicals and will not rust or corrode, the company says. A 14 in. top opening provides access to the tank interior. Chemical level is always visible on the gallonage gauge molded into the translucent tank wall. For complete information, check No. 6052 on the coupon and mail.

No. 6046—Bulk Material Hauler

The model "C" bulk material hauler has been introduced by Highway Equipment Co. The unit, according to company literature, can be used for



transporting virtually all materials of fine granular consistency, such as flake gypsum, salt, pulverized lime and superphosphate. Four different body lengths are available including 8 ft., 11 ft., 13 ft. and 15 ft. A 30 in. heavy duty, four-ply rubber belt-over-chain conveyor is utilized. The screw-jack allows precision setting of the feedgate, the company says. For details, check No. 6046 on the coupon and mail.

Intensify fertilizer selling with SF State & Regional Editions!

24 State & Regional Editions of Successful Farming			
Edition	States	Circulation*	B&W Pg. Rate
1	Iowa, Illinois, Indiana, Nebraska, Minnesota, Wisconsin	616,064	\$3,955
2	Illinois, Indiana	223,541	\$1,860
3	Iowa	132,395	\$1,160
4	Minnesota	118,222	\$1,050
5	Nebraska	68,268	\$ 625
6	North Dakota, South Dakota	81,742	\$ 760
7	Wisconsin	73,638	\$ 705
8	Iowa, Illinois, Indiana	355,936	\$2,780
9	Iowa, Minnesota	250,617	\$2,085
10	Iowa, Nebraska	200,663	\$1,720
11	Minnesota, Wisconsin	191,860	\$1,690
12	Minnesota, North Dakota, South Dakota	199,964	\$1,740
13	North Dakota, South Dakota, Nebraska	150,010	\$1,350
14	Illinois, Indiana, Ohio	328,112	\$2,565
15	Iowa, Minnesota, North Dakota, South Dakota, Nebraska	400,627	\$3,065
16	Iowa, Illinois, Indiana, Wisconsin, Minnesota	547,796	\$3,785
17	Illinois, Indiana, Ohio, Wisconsin, Michigan	473,778	\$3,370
18	North Dakota, South Dakota, Nebraska, Kansas	219,701	\$1,850
19	Iowa, Nebraska, Kansas, Missouri	348,562	\$2,715
20	Middle Atlantic, New England	129,939	\$1,245
21	Ohio	104,571	\$ 915
22	Michigan	72,028	\$ 630
23	Kansas	69,691	\$ 625
24	Missouri	78,208	\$ 700

*A.B.C. Publisher's Statement, 12/31/59

Fertilizer advertisers can intensify sales efforts, match marketing and the map, through the 24 State & Regional Editions of SUCCESSFUL FARMING, in addition to the National Edition!

Sellers of fertilizer can now put more push and sales drive in whatever market they wish, custom-tailor their advertising to their field plans and sales strategy. Local dealers can be listed, copy personalized, prices featured.

The new SF State and Regional editions provide a powerful selling tool for getting the full potential of specific markets. And open opportunities for advertisers with distribution limited to a single state or group of states. Advertising units may range from two-thirds page b&w to color multi-pages and special units.

Your advertising in the National Edition and in the State and Regional Editions gets the influence, prestige, and power of SUCCESSFUL FARMING... based on 57 years of service, helping farmers get higher yields and income, improve soil productivity, live better. SF farm subscribers have big farms, averaging 336 acres. And their income from farming is high—estimated cash income from farming alone averaged around \$10,000 for over a decade.

The nearest SF office will gladly tell you more about your best fertilizer opportunity!

MEREDITH PUBLISHING COMPANY, Des Moines... with offices in New York, Chicago, Atlanta, Boston, Cleveland, Detroit, Los Angeles, Minneapolis, Philadelphia, St. Louis, and San Francisco.





HOW LION E-2* HELPS YOU GET THE

Lion E-2 Ammonium Nitrate has distinct advantages that can make your selling job easier, quicker, and more profitable.

Lion E-2 is the only ammonium nitrate on the market that can save 20 to 25% of your valuable storage space. Because each Lion E-2 prill is physically concentrated, you can stack five 80-lb. bags of Lion E-2 in the same space previously taken up by just four 80-lb. bags of any other brand. The space you save can be utilized for larger inventories and larger profits.

Lion E-2 bags are easier to handle. They're specially "frictionized" with Monsanto Syton,[®] a special antislip agent for faster gripping, safer stacking. You can stack Lion E-2 higher without fear of bag damage due to slippage.

Lion E-2 saves your customers time when they need it most. Because Lion E-2 is concentrated, your customers can put up to one-fourth more material in their spreaders. They eliminate at least one out of every five refill stops. Lion E-2 spreads easily, produces the yields that build repeat business for you.

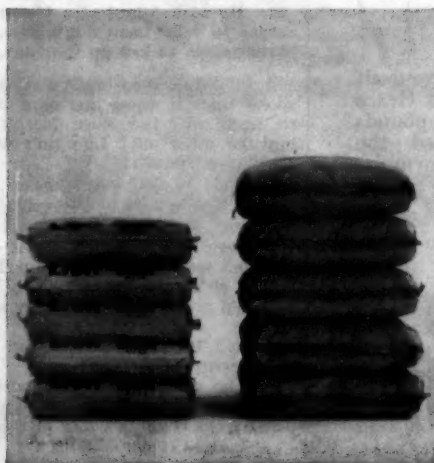
Lion E-2 is going to be seen, heard, and talked about by all of the folks in your county. Unusual advertising (and a lot of it) is going to make your customers "Lion-conscious." They'll recognize Lion E-2 as a dependable product that's guaranteed 33.5% vital nitrogen.

Get set now for the "lion's share" of business. Write LION E-2, Monsanto Chemical Company, St. Louis 66, Missouri.



LION and SYTON: Reg. T. M.; *E-2: T. M., Monsanto Chemical Co.

"LION'S SHARE" OF AMMONIUM NITRATE SALES



Lion E-2 is the only brand that saves 20 to 25% of your storage space. In your warehouse, or on your truck, you can stack *five* bags of Lion E-2 in the same amount of space previously taken up by just *four* bags of any other brand.

You can stack Lion E-2 higher, safer, faster. The bags are specially "frictionized" with Monsanto Syton, the antislip agent that reduces bag damage due to slippage.



SCHOENFELD AND McGILLICUDDY



OSCAR & PAT

By AL P. NELSON

It was a cold, blustery night in an Iowa city of about 10,000. In a hotel lobby sat a group of young and middle aged men. They were well dressed and had the alert, business-like look which characterizes men who want to go places economically and who are willing to put forth the energy to get there.

As is common with a group of salesmen in a hotel lobby at night, it didn't take long for all of them to become acquainted. Sports, the weather, business conditions, women, families, customers—all these

were topics that got cussed and discussed.

"You can talk about your tough customers," said a middle aged, chubby salesman named Pete Waverly, "but there's a guy over there at Fountain City named Oscar Schoenfeld in the farm supply business who won't even buy a gold brick. He thinks you can do business without any stock."

Another salesman laughed. "You mean the guy with the green frog paper clip container, the box full of retrieved rubber bands, the guy that has a sign on the wall 'You here

again? Here's another half hour shot to h—!'"

Waverly grinned. "You call on him, too?"

Clyde Cooper smiled. "Yeah, that's about it. I call on him, but I never get any orders. I have to sit in my car outside and wait for Pat to come back. Then I take him to lunch, and maybe I get a little order."

"Is this character smart?" asked another salesman, his diamond ring flashing as he puffed on a cigar.

"Is he smart?" asked Waverly. "Depends on how you define the

term. He lives in an ancient house, uses the company truck to take his wife to church, so he won't have to buy a car—but he owns a sizable block of stock in the bank. And they say he's generally loaded. But the way he and his wife live!"

"I thought all crooks like that had died off long ago," said the salesman with the diamond ring. "He ought to live it up a little. He isn't going to be here forever. Might as well have some fun with the dough he's got."

Waverly shook his head. "Not this guy Oscar. He thinks a guy should never buy anything he can't pay for in cash. And he thinks a fellow should only buy about 5% of the things he really thinks he needs. He believes you should get along with old clothes for an extra year or two. He has a yellow straw hat that must be 15 years old."

"You know," put in Clyde Cooper, "that's what bothers me. My sales manager tells me to sell and promote and build business. But this guy Oscar gets solvent doing things the other way. Somebody said he never had a financial worry since he was 12 years old and started working out for himself."

"Yeah, but he gets liver trouble from too much worrying," grinned Waverly. "His partner Pat is the exact opposite. He is always out selling and promoting. Pat brings in the business and Oscar makes the customers pay up. If they don't he insults them, and then Pat wins them back. What a combination."

"That liver trouble of Oscar's," put in Cooper, "is caused in part by his tiffs with Pat, his partner. Oscar gets wild when Pat gets a new promotion scheme. Did you hear his latest?"

"No, I haven't called there for six weeks. I'm due there next week or so. But I know Pat can't sit still very long without trying to scratch up new business."

Cooper smiled. "You're right. Well, it seems that Pat opened a bag of fertilizer in his warehouse, placed a \$20 bill inside, then sewed it up again and put it back among the stock. Then he passed the word out to some customers of what he had done. Well, you know how news spreads in the country."

Waverly grinned. "I sure do. I'll bet by night time that news had traveled to every farm in a radius of 30 miles."

Cooper nodded. "Sure, and by nightfall the next day Pat's warehouse was just about empty of bag fertilizer. Of course every farmer who bought bag stock was hoping to find that \$20 bill. You know how it is."

Waverly chuckled. "Not a bad idea to try once anyway. What did Oscar say when he found out what Pat had done?"

"Well, from what I hear," Cooper grinned, "it was the Civil War all over again. One of the employees overheard them talk and he said he never heard so many German and Irish swear words in all his life. He wished he had a tape recorder to take them down. Oscar's liver musta kicked up that day."

A tall, dark eyed hosiery salesman spoke up. "If these partners scrap so much, why the deuce doesn't one buy the other out? Life isn't worth all that arguing."

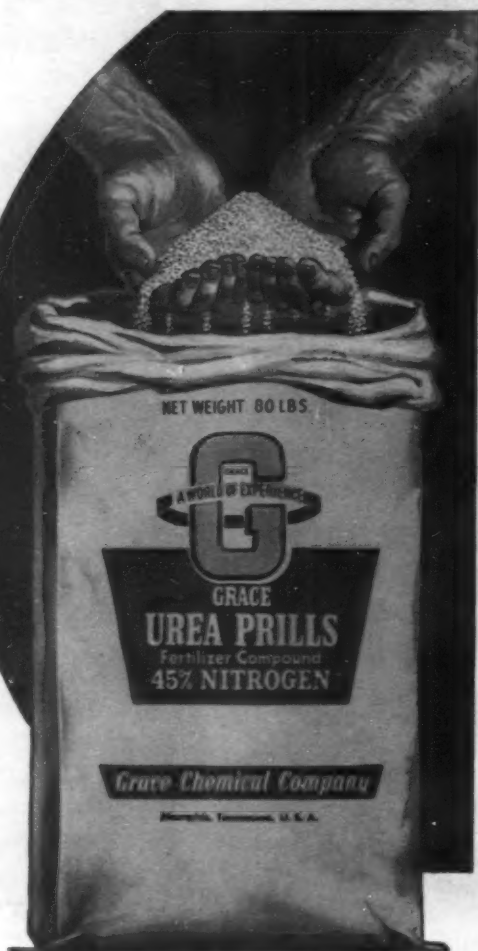
Waverly looked at Cooper and Cooper looked back at Waverly. "You tell him," suggested Cooper.

Waverly laughed. "Well, it just wouldn't work if they split up. I believe if either was in business by himself he'd go bankrupt in a very short time."

"Why? He'd have peace—and time to concentrate."

"So he would," Waverly chuckled. "But each partner has something the other lacks. Pat's a whizz of a sales-

(Turn to OSCAR, page 17)



Why you'll
sell more
**Grace
Urea
Prills**
This Spring

**Its versatility and superiority
help increase your volume and profits**

You can recommend Grace Urea Prills for all crops, wherever a nitrogen fertilizer is needed.

In the spring, for example, these free-flowing, leach-resistant prills are ideal for preplant application. That's because they speed decomposition of stubble or plant residues being turned under.

And, of course, your customers can use Grace Urea Prills profitably for:

- ✓ Sidedressing or topdressing
- ✓ Foliar application
- ✓ Application in irrigation water
- ✓ Spring fertilization of pastures

You help your customers as well as yourself when you promote the increased use of Grace Urea Prills. They offer your farmers 4½ pounds of nitrogen for each ten pounds applied—the most nitrogen per pound in solid form... guaranteed 45%.

To build up the nitrogen content in liquid fertilizers, use either Agricultural Grade Grace Crystal Urea or Grace Urea Prills. Both dissolve readily, stay dissolved.



Grace Chemical Company

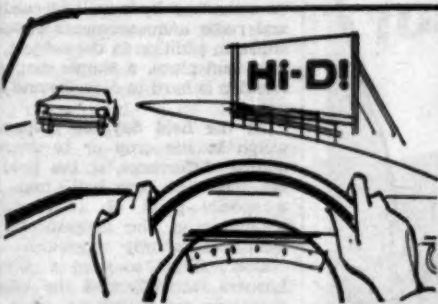
A DIVISION OF W. R. GRACE & CO.
MEMPHIS, TENN.



THERE ARE 6 SOUND WAYS TO SELL IN '60 AND THE *Hi-D*[®] PROGRAM'S GOT THEM ALL!

OUTDOOR

Billboards in 879 locations spread across 13 top-market states in the South and Midwest.



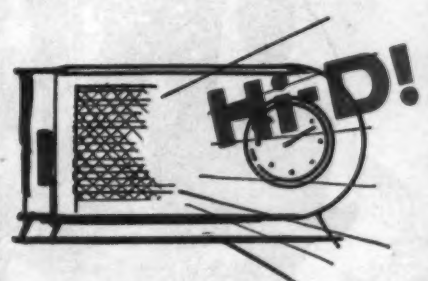
TELEVISION

A 10-state campaign for a solid 13 weeks emanating from 18 TV stations.



RADIO

A 13-week advertising program that saturates 17 states from 75 radio stations.



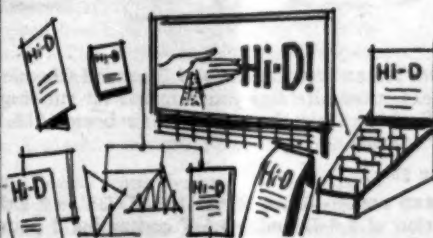
MAGAZINES

Full-page, four-color advertisements appear in "Progressive Farmer" . . . "Farm Journal" . . . "Successful Farming" . . . and "Farm & Ranch."



INSIDE THE STORE

Attention-getting point-of-sale material for in-store promotion. Includes Hi-D mobile . . . soil sample bags . . . counter display with Hi-D samples . . . wall banners . . . consumer folders . . . matches . . . and technical data service.



OUTSIDE THE STORE

Two brand-new items designed for posting outside your store or warehouse: attractive Hi-D metal sign and large clock-style thermometer identify your store as Hi-D headquarters.



***Hi-D* keeps your sales
on the grow in '60!**



COMMERCIAL SOLVENTS CORPORATION Offices in Atlanta, Chicago, Cincinnati, Cleveland, Detroit, Kansas City, New Orleans, New York, St. Louis, Sterlington, La.



SEEING

(Continued from page 9)

—an outstanding chemical introduction, method of application, granular products, etc.

Selecting the Cooperator

The man whose field you use as the site for your demonstration is key to its success so choose carefully. Pick a man who is well respected in the community, a sound farmer, but not one who is known primarily as an experimenter.

His farm should be a good one, an operation other farmers can look up to, but it should not be exceptional for the area. After all, your purpose is to demonstrate something that is practical, not fitted only to the most advanced growers.

Take time to explain your project carefully to this farmer, making certain that he thoroughly understands

what is required of him as well as your over-all plans. Obtaining his personal interest and enthusiasm before the project begins will greatly increase your opportunity for success.

Locating the Site

To best serve your purpose, the demonstration site must be clearly visible and easily accessible. An ideal location will be along a well traveled road in a field at road level or slightly lower, one that is level or rising slightly away from the highway.

There should be no ditch or hedge row separating the field from the road. Soil, drainage, pH and other basic conditions must, of course, fit the selected crop and your demonstration practice.

Try to pick a spot with sufficient

area along side the highway to permit parking. This will be a real aid in encouraging farmers to stop and view the demonstration and will be almost essential if a field day or tour is planned.

Avoid a "trial plot" type of demonstration. Use at least a half acre of a commercial size field so that the practice shows as a practical one of proven value.

Getting Ready

Don't wait until the time for application is at hand, plan far enough ahead so that all is ready to roll on the proper day.

Have your materials ready, as well as any equipment that is required. If you plan to use the grower's spray rig, planter or seeder, take time to calibrate and check these units to be certain that they will function properly.

Check recommendations carefully and follow exactly, in timing and in rate of application. If this is to be

a true comparison with an untreated portion of the field, be sure that all other conditions and treatments are uniform throughout.

Follow progress closely and, when the demonstration approaches maximum effectiveness, prepare to make the most of it with promotion and publicity.

IDENTIFY the demonstration with a field sign or signs, easily seen from the road by travelers in either direction.

Remember that signs will most often be viewed from moving vehicles so legibility is all important. To be read at a distance of about 100 ft., letters should be 3 in. high painted with strokes at least 1/2 in. thick.

Mount signs so that they are at least 3 ft. above the ground. Use fence posts or 2x4's or other substantial supports.

Keep the edge of the field mowed. Your demonstration will show to much better advantage when not partially obscured by a ragged stand of roadside weeds. Where a crop such as corn is involved cutting out the headland will improve appearance markedly.

PUBLICIZE through your local paper and radio station. Tell what you are doing, the results and the potential benefits to growers. Keep it factual and avoid the temptation to "sell" your organization.

INVITE growers to see the demonstration. Take individuals or small groups to see it or try organizing a full scale field day when the field is in its prime. If you decide on a field day, promote the event far enough in advance to allow growers to plan on attending. Your mailing cards, ads and radio announcements should include, in addition to the subject, date, time and place, a simple map if the location is hard to describe and a rain date.

At the field day, be prepared to weigh in the crop or to dramatize quality differences, if the field does not meet the "eye ball" test. Make a special point of avoiding more trampling of the cooperator's field than is absolutely necessary.

Don't forget to keep a record of farmers who attended the affair so that you can follow up at a later date with sales calls.

INFORM your extension or county agent and the vo-ag teacher. The agent might well consider a tour of the site and a visit to the field may fit the teacher's lesson plan—either will be good publicity for you.

When the demonstration has served its purpose, take time to thank the grower who worked with you on the project.

If it fails . . .

Don't blame the farmer, regardless of the cause of the failure. Accept fate as gracefully as you can and thank the man sincerely for his interest and cooperation.

Do take time to determine just what caused the failure and explain your findings to the grower so that he is fully informed.

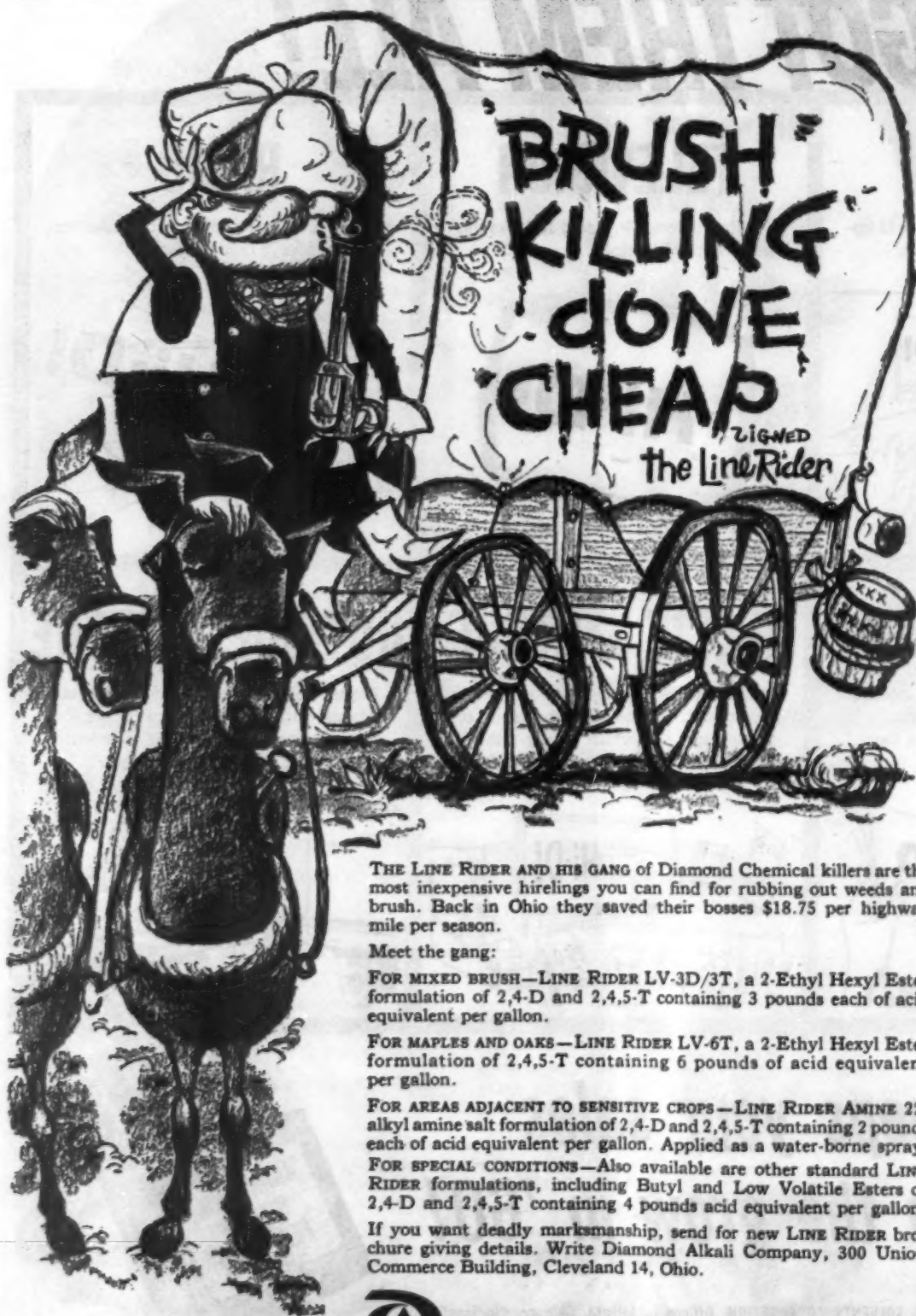
Properly executed and exploited, a crop demonstration can be a real sales builder. Try one this season in your area and make the most of an "eye ball" test for greater sales in 1961.

Idaho Simplot Plant Open, Doing Business

WILDER, IDAHO—The new Simplot Soilbuilders fertilizer plant here is now open and doing business, reports Jim Farley, manager.

The plant has already received two cars of bag fertilizer and shipments are ordered to stock the warehouse which has the storage capacity of 18 cars of bulk fertilizer, and 30 cars of bag fertilizer, he related.

The facility has modern equipment to handle fertilizers in bulk and bag, and also bins to loan to the farmer for bulk fertilizer.



THE LINE RIDER AND HIS GANG of Diamond Chemical killers are the most inexpensive hirelings you can find for rubbing out weeds and brush. Back in Ohio they saved their bosses \$18.75 per highway mile per season.

Meet the gang:


FOR MIXED BRUSH—LINE RIDER LV-3D/3T, a 2-Ethyl Hexyl Ester formulation of 2,4-D and 2,4,5-T containing 3 pounds each of acid equivalent per gallon.

FOR MAPLES AND OAKS—LINE RIDER LV-6T, a 2-Ethyl Hexyl Ester formulation of 2,4,5-T containing 6 pounds of acid equivalent per gallon.

FOR AREAS ADJACENT TO SENSITIVE CROPS—LINE RIDER AMINE 22, alkyl amine salt formulation of 2,4-D and 2,4,5-T containing 2 pounds each of acid equivalent per gallon. Applied as a water-borne spray.

FOR SPECIAL CONDITIONS—Also available are other standard LINE RIDER formulations, including Butyl and Low Volatile Esters of 2,4-D and 2,4,5-T containing 4 pounds acid equivalent per gallon.

If you want deadly marksmanship, send for new LINE RIDER brochure giving details. Write Diamond Alkali Company, 300 Union Commerce Building, Cleveland 14, Ohio.

 **Diamond Chemicals**

SERVICE

(Continued from page 9)

is popular for corn, and 0-30-15 is used on alfalfa.

Buildings at the Windom location include a 60 by 150 ft. main office and warehouse; a 50 by 120 ft. building used for seed and fertilizer storage, and a 46 by 115 ft. bulk storage building with a 1,000 ton capacity. Two buildings, also, are used at the Fair Grounds as well as storage space provided at the village of Westbrook.

The bulk storage building at Windom is located along the trackage. Cars are unloaded with tractor equipped with scoop, the outfit being valued at \$4,000. A car hoist is employed in raising the unloader to the level of the car door. The fertilizer is emptied into a hopper from which it is elevated to a moving belt, and then carried to any one of nine storage bins.

Blending will be done for farmers who want this service, Mr. Keck advises.

Bagged fertilizer in the storage building rests on pallets capable of holding up to a ton of material. The pallets keep the material dry and off the floor and permit running the handcart under the bags in moving them.

The season for applying liquid nitrogen is a six week period from the time the corn emerges until it is laid by. Dry application is made in the spring and fall, and also during the summer on alfalfa.

Keeping up to date on soil conditions has been important in company policy, Mr. Keck points out. "We have done quite a little plot work," he says. "We farmed 40 acres, on which we carried on fertilizer research. It took more time than we could spare but did a lot of good in getting us going."

Mr. Keck feels the benefits were:

1. We worked on a continuous corn program and proved that it could be done.
2. We proved that heavy application of fertilizer with plenty of moisture gave excellent results without burning the corn, although heavy applications did not always pay out.
3. We determined the most desirable application rates.
4. Where the average application was 100 lb. of starter, there was little benefit if that was the only application.
5. We learned that if corn follows corn a 200 lb. plow down, plus 100 lb. of 8-24-12 starter and 60 lb. of nitrogen gave good results.

Burning of corn may be caused by lack of nitrogen, or bad placement, Mr. Keck feels.

Delivery of bag fertilizer is made free up to April 1, and after that a charge of \$1 a ton is made.

The selling policy includes a full discount of \$4 a ton up to the first of the year. "If a man pays for his material by the first of the year he gets his discount and can take delivery at any time."

Does the discount policy pay? "It is a matter of meeting competition," the manager advised.

"We like to see a lot of soil testing," Mr. Keck continued, "and will pay for two samples a year per customer. We send the samples to the University of Minnesota, and do not believe in the use of kits."

"We believe that if the farmer has the proper recommendations we sell him what fits, and he gets the best results."

The service manager is tough on credit. The policy is cash in 30 days although "we help our customers make credit arrangements with lending agencies. We are not in the financing business, we are merchandisers," he emphasizes.

A credit rating book covering the territory costs us \$30 and is worth

every bit of it, he says. "We very seldom write off losses, and stick to our policy, but if we do write off a loss we don't quit trying to collect," he says. A reserve is kept for bad debts but the biggest share of these are collected even after writing them off.

The manager observes that people know when they buy something that they are going to have to pay for it, that's only good business. "We keep our accounts receivable at a low point. We may lose a few customers but those we lose are those inclined to 'let 'er ride.' If we lose that kind of customer, we have not lost anything."

Business promotions and education are a part of the program. Promotions include an appreciation day held

during the winter at which coffee and donuts are served, and door prizes given. The event costs about \$250 and generally brings 500 to 600 visitors into the store. Another phase is the annual meeting, at which a speaker gives the latest on fertilizer use.

The sum of \$4,000 a year is spent on a radio and newspaper advertising program. It keeps the company name before the public. A policy of selling on the road was tried and did not prove successful, Mr. Keck added.

Another activity is the use of a booth at a business show, as well as cooperation with such events as the Southwestern Minnesota barrow show, the lamb feeding show, and calf feeding projects.

Educational meetings are attended as much as possible, and fertilizer information is discussed at 15 meetings a year.

Two possibly unusual additions to the main building are a shower room and a lunch room. The men ap-

preciate a chance at cleaning up after a day working with fertilizer.

As for the lunch room, Mr. Keck says, "It isn't so much the time saved, the important thing is that if we need a man we know where we can find him in a hurry. We don't need to call for him up town."

Factors important in making a fertilizer business tick, according to Mr. Keck are:

1. Service.
2. Handling quality merchandise.
3. Be an enthusiastic salesman, give the facts.
4. Keep up on the latest information.
5. Newspaper and radio advertising.

OSCAR

(Continued from page 14)

man but weak on the bookkeeping and collecting and things like that. (Please turn the page)

the BIG year is here
for **HEPTACHLOR**
INSECTICIDE

SELL IT FOR CORN! SELL IT FOR COTTON! SELL IT FOR SEED TREATMENT! SELL IT FOR TOBACCO AND OTHER CROPS!

WIDELY RECOMMENDED Heptachlor is widely recommended as a soil insecticide, because of its effectiveness and economy. The U.S.D.A. has issued specific directions allowing the continued use of Heptachlor on the following food and feed crops: corn, cotton, certain fruits, berries, and vegetables, small grains, grass, pasture and range. Heptachlor can also be used on tobacco.

BIG DEMAND Recent improvements in application equipment make it easier for the average farmer to apply Heptachlor. More and more farmers are using Heptachlor, because it gives them better results at no extra cost. This is the year that all the groundwork will pay off! Greater acceptance, easier application, and doubled advertising and sales promotion mean a big demand for Heptachlor!

EXPANDED ADVERTISING Look for big Heptachlor promotions this year! Heptachlor will be backed by the most comprehensive regional advertising programs in Heptachlor history. Farm magazines, newspapers, radio, TV, and point of sale materials will all help you increase your sales. It's all free and all for you.

On February 9th, 1960, The Pesticide Regulation Branch, U.S.D.A., issued specific directions allowing the continued use of Heptachlor on corn, cotton, and other major crops.

GET SET TO SELL MORE

HEPTACHLOR

MAIL COUPON TODAY FOR
LATEST INFORMATION! →



Velsicol Chemical Corporation
330 East Grand Avenue, Chicago 11, Ill.

Gentlemen: Please send me complete information about Heptachlor sales opportunities for 1960 as information becomes available.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

C-4250

He would never go out collecting if Oscar didn't need him."

"And Oscar?"

Waverly sniffed. "Well, he's a bear for bookkeeping and discounts. He knows every day who owes the firm and how much. And he's always insulting customers and salesmen. His idea is 'We got it, come and get it and pay for it cash.'"

"Why, that's old fashioned stuff," said the salesman with the diamond ring. "This country is run on credit."

"You can't tell that to Oscar," Waverly said slowly. "If he were in business for himself, his customer list would dwindle every day. He wouldn't promote or advertise or even light up his store. And he'd hound people for their money. Pat needs Oscar and Oscar needs Pat. And neither will believe it."

"What a heckuva situation!" said the salesman with the big diamond

ring. "A fix like that would drive me nuts."

"It drives them nuts, too," pointed out Waverly. "But what can they do about it? Each time I visit them and get a taste of what they are going through, I get down on my knees and thank the Lord I'm a relatively free salesman. I got my troubles—but—"

NEW POST CREATED

ST. LOUIS—Edward F. Lynch, Jr., St. Louis, has been appointed to the newly created position of manager of distributor relations for Monsanto Chemical Co. in its marketing services department, announced William R. Farrell, the department's director. Mr. Lynch's appointment was effective April 1. The position was created recently by Monsanto, according to Mr. Farrell, in recognition of the increasing importance distributors play in the marketing of the company's products.

PATENTS and TRADEMARKS

2,930,730

Fungicidal Compositions Comprising Nitrogen Base Salts of Dimethyl-tetrathio phosphoric Acid. Patent issued March 29, 1960, to Carleton B. Scott, assignor, by mesne assignments, to Collier Carbon & Chemical Corp. A fungicidal composition comprising as the essential active ingredient a salt of dimethyl-tetrathio phosphoric acid and a nitrogen base compound selected from the class consisting of (1) ammonia, (2) heterocyclic nitrogen bases, (3) primary amines of the formula XNH_2 , (4) secondary amines of the formula $XYNH$, and (5) tertiary amines of the formula $XYZN$, wherein X, Y, and Z each represents a substituent selected from the class consisting of alkyl, aryl, cycloalkyl, aralkyl and alkaryl groups; an inert fungicidal carrier material for said active ingredient; and sufficient of a dispersing agent to enable said active ingredient and said carrier material to be dispersed in water.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of \$25 must accompany each notice of opposition.

Weedfume, in capital letters, for weed killer. Filed July 29, 1959, by Neil A. Maclean Co., Inc., Belmont, Cal. First use March 3, 1957.

Weevil-Fume, in capital, hand-drawn letters, for grain fumigant used as an aid in the control of insect infestations in bulk stored grains. Filed Aug. 17, 1959, by the Weevil-Cide Co., Kansas City, Mo. First use about Oct. 18, 1942.

Metadelphene, in capital, hand-

drawn letters, for insect repellent. Filed Aug. 31, 1959, by Hercules Powder Co., Wilmington, Del. First use June 15, 1957.

Design, drawing of Indian holding plants in outstretched arms, for peat and peat products. Filed Dec. 29, 1958, by Mesabi Grow Co., Gilbert, Minn. First use July 2, 1958.

Harven, in capital letters, for fungicide. Filed May 4, 1959, by the Dow Chemical Co., Midland, Mich. First use July 8, 1958.

Garlon, in capital letters, for weed and grass killing product. Filed May 4, 1959, by the Dow Chemical Co., Midland, Mich. First use April 29, 1958.

Line Rider, in capital letters, for herbicides. Filed July 16, 1959, by Diamond Alkali Co., Cleveland. First use June 16, 1958.

Crop Rider, in capital letters, for herbicides. Filed July 16, 1959, by Diamond Alkali Co., Cleveland. First use Jan. 27, 1959.

Fence Rider, in capital letters, for herbicides. Filed July 16, 1959, by Diamond Alkali Co., Cleveland. First use April 19, 1957.

Antrol, in capital letters, for insecticides, miticides, fungicides and herbicides. Filed July 20, 1959, by American Home Products Corp., d.b.a. Boyle-Midway, New York. First use July 31, 1925.

NAMED SALES DIRECTOR

BILLINGS, MONT.—Tom Koyama, Multi-Mineral Products Corp. president, of this city, announces the appointment of Edward J. Moore as sales director. The firm, which has offices in the Treasure State Bldg., manufactures and distributes soil conditioner and plant food. Its plant is situated at Red Lodge.



MURIATE OF POTASH for the PLANT FOOD INDUSTRY

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It is always our aim to serve you better. Write, phone, or wire New York—

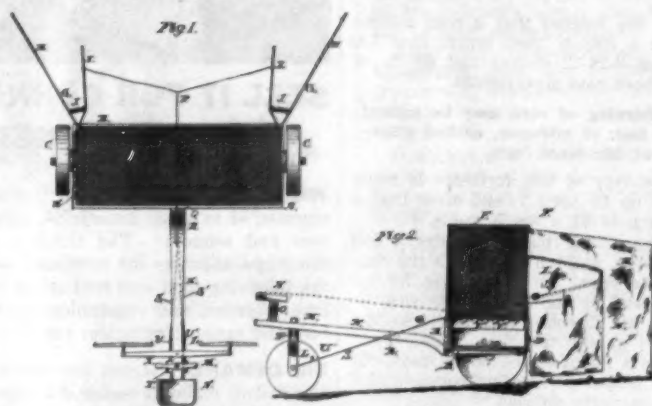
ATLANTA 3, GEORGIA
902 HEALEY BUILDING
JACKSON 3-2541

DES MOINES 10, IOWA
5731 URBANDALE AVENUE
BLACKBURN 5-1135

Southwest Potash Corp.

NEW YORK 20, NEW YORK

Saga of Insect Control



GRASSHOPPERS seemed to be the favorite villain in the minds of inventors who dreamed up ways of destroying this particular pest. Among such inventors was Dexter H. Hutchins of Kossuth County, Iowa, who in 1877 was granted a U.S. patent for his "improvement in machines for catching and destroying grasshoppers."

This was a case of putting the cart before the horse, since the horses faced the main body of the device and the driver sat on the rear of a sort of tongue which was supported by a caster wheel to afford maneuverability. Thus, the bug-catcher would be pushed down the field with its "mouth" open. The grasshoppers would arise from the ground and be driven into the frame by draw-flies which closed at every revolution of the wheels.

The insects, thus drawn into the machine, were piled into a box from which they could not escape, and when the box was full, sulfur was ignited to kill the pests with its fumes.

"The machine may then be cleaned and the operation repeated," the inventor states in his patent description.

Don't Take Chances On Losing Sales...and Customers... Because You Don't Have Enough Fertilizer On Hand For Farmers Who Need It Quick This Spring

4 Leading Fertilizer Dealers Tell You Why They Still Expect To Make Big Sales Despite The Delayed Spring Selling Season:

When your customers come in for their fertilizer this Spring, they are going to need it in a hurry. Promises or excuses won't do. The last thing they want to hear is, "Sold Out."

With the late Spring season this year, any delay in applying fertilizer will be costly. When farmers' incomes are at stake, they can't afford to wait.

What Are Some Dealers Doing?

Some dealers, of course, have taken a "wait and see" attitude about stocking up. Others just aren't ordering quite as much as they normally would. But both are taking a big chance on losing sales, profits—and even the patronage of the customers they disappoint—by not having the fertilizer on hand when it's needed most.

What Leading Dealers Are Doing:

Other dealers who realize the importance of giving real service to their customers aren't taking such risks. They know that with the short Spring, farmers are busier than ever and can't be kept waiting when they are ready for fertilizer.

These are the dealers who have had the foresight to stock up for a big, profitable selling season. They expect to sell not only their own customers—but the customers of other dealers who are sold out because they didn't order enough fertilizer.

And they are well aware that ammonium nitrate will be in big demand, so they are

stocking up big on the brand that is asked for most often—Spencer "Mr. N." Since its introduction, Spencer "Mr. N" has outsold every other brand of ammonium nitrate! Why not sell the biggest seller?

Don't Be Caught Short!

The secret of selling fertilizer in a short selling season is simply to have enough on hand to supply the demand. Here is the way four leading fertilizer dealers put it:



Tommy Vuolemans
Syracuse Elevator
Syracuse, Missouri

"I can credit the increase in my fertilizer business to the fact that I have two warehouses full of material when it's needed."

"I keep a warehouse well stocked in advance of the season, and it's conveniently located for farmers to load their trucks."



Howard M. Linn
Linn Grain Company
Neodesha, Kansas



Walt Niccum
Mutual Grain Co.
Servia, Indiana

"We stock a sizeable quantity of several grades, and having it on hand makes a lot of difference to the business."

"Facilities for immediate delivery from my warehouse enable me to get the bulk of the customers who want their fertilizer NOW."



Kermit Streicher
Holgate Grain &
Supply Company
Holgate, Ohio

Place Your Order Now!

Take a tip from these leading fertilizer dealers and be well stocked when the Spring rush hits in your area. Why take a chance on losing sales? Remember, this year more farmers than ever will be using extra nitrogen to boost their yields. That's why it will pay you to have plenty of Spencer "Mr. N" Ammonium Nitrate on hand. Place an order with your mixer salesman right away—while there's still time to get delivery for big Spring sales.



"Mr. N" enough to cover 26,000,000 acres of cornland with 60 lbs. of actual N per acre! That's how much has been sold—making "Mr. N" the best selling brand of ammonium nitrate ever. Be sure your fertilizer stock includes plenty of "Mr. N" for this Spring's late rush.



Cash in on the big swing to **Spencerizing!**

SPENCER CHEMICAL COMPANY . . . Kansas City, Missouri

Producer of 4 Nitrogen Spencerizers for Hungry Crops

RED CHINA

(Continued from page 1)

portedly produced 181,000 tons of ammonium sulfate, 7,486 tons of ammonium nitrate, and 6,000 tons of superphosphate. Considerable quantities of fertilizers also were imported.

"A Five-Year Plan for development of the chemical fertilizer industry was established by the Communist Government for 1953-57. This plan stipulated that the two old plants be expanded and five new ones be constructed, namely three nitrogenous fertilizer plants to be located at Kirin, Lanchow, and Szechuen, and two phosphatic fertilizer plants at Nanking and Talyuan. Construction of all these facilities began in 1955-57 except the Nanking plant, which got under way early in 1958.

"However, of the new projects, only the Kirin plant was in operation by the end of 1957, production of ammonia and ammonium nitrate starting in July. In addition to the Five-Year Plan, some local governments began construction of other projects during this period, including phosphatic fertilizer plants at Yunnan and Chuchow.

"A second Five-Year Plan was adopted in 1956, setting a production target of 3 million tons of chemical fertilizers by 1962, later revised to 7 million tons. In 1958, the program 'great leap forward' was launched to attain an output of 15-20 million tons of fertilizers by 1962. The new program called for local governments throughout China to build numerous medium-size and small fertilizer plants to supply about 80% of the goal.

"Plants at provincial and municipal levels are to manufacture one or more of the following: Ammonium sulfate, ammonium nitrate, ammonium chloride, calcium cyanamide, and urea. Local projects at lower government levels are to produce ammonium bicarbonate, considered the most suitable type for the special local governments because the production process is simple, cost is low, and plants are easily and quickly built.

"The state continued to emphasize development of the nitrogenous fertilizer industry during the second Five-Year Plan. Phosphatic fertilizers are considered of lesser im-

portance, although several phosphatic fertilizer facilities are included in the program.

"Much expansion was carried through during 1958 and 1959, but apparently far slower than the planned schedule to meet the 1962 goal. The four large state plants that were still under construction in 1957 began operating in 1958 or 1959. A second phase of expansion for these and existing plants was included in the 1958-62 program. Construction of 14 provincial or local plants began during 1958, of which 7 were scheduled for completion by the end of 1959. To spur the local governments into building the small ammonium bicarbonate plants, the Ministry of Chemical Industry constructed in 1958 two prototype plants, at Peking and Shanghai, each having an annual rated capacity of 8,000 tons.

"These plants were open for inspection by local government officials and are to be used for training engineers and skilled workers. No construction of new plants was started during 1959, the lag, especially at local government levels, being attributed to shortages of building materials, equipment, and technical personnel.

"During the first Five-Year Plan, about 375 million yen were said to have been invested in the chemical fertilizer industry, accounting for 47% of the total for the entire chemical industry. The second Five-Year Plan called for an investment of 1.5 billion yen. Much of the equipment installed in the fertilizer plants, especially for ammonia synthesis, was imported, largely from the Soviet Union.

"Efforts have been made to manufacture more equipment in China, but all high-pressure units installed in 1958 were imported. Synthetic ammonia units for installation at the Kirin plant and several of the local plants were being manufactured in 1959 by Communist China's machine industry.

"Fertilizer production in China amounted to approximately 800,000 tons in 1957, consisting of 630,000 tons of ammonium sulfate, 50,000 tons of ammonium nitrate, and 120,000 tons of superphosphates. Total output

increased to more than 1.2 million tons in 1958 and probably to 2.1 million tons in 1959. The Darien and Nanking plants accounted for 73% of nitrogenous fertilizer output in 1957, but their share was expected to decline to about 60% in 1959 as other plants started operating.

"Consumption of chemical fertilizers increased from 592,000 tons in 1953 to 1.8 million tons in 1957, about 45% of which was supplied by domestic production. In 1958, consumption of 2.7 million tons was made up of 1.2 million from domestic production and 1.5 million from imports, the latter comprising ammonium sulfate, ammonium nitrate, and superphosphates from USSR, Austria, West Germany, and other European countries.

"Extensive use of chemical fertilizers is necessary to increase agricultural productivity in China. Minimum annual requirements have been estimated at more than 10 million tons by the Ministry of Agriculture and up to 20 million tons by other sources. Capacity of productive facilities completed and under construction in 1959 totaled approximately 5 million tons for nitrogenous fertilizers (basis 20% N) and 2 million tons for phosphatic fertilizers.

"Despite the ambitious Five-Year plans, the present regime apparently is either unable or unwilling to make the major capital investment required to raise chemical fertilizer production sufficiently to achieve adequate crop productivity. Both imports of chemical fertilizers and use of natural fertilizers probably will be required for many years to supplement domestic production."

Bark Beetles Infect California Forests

SACRAMENTO, CAL.—The infestation of bark beetles which was forecast as early as April, 1959, in the pine belts of the Sierra Nevada has broken out in full strength in many sections of California's logging areas.

Private landowners, logging operators, the U.S. Forest Service and the California Division of Forestry have teamed up in an effort to hold back the hordes of insects.

The stage was set for the outbreak by warm weather last fall and a mild winter. Forest fires last fall also required much manpower which otherwise would have been assigned to insect control operations.

This year's operations began while snow was still on the ground when foresters flew over the woods mapping trees which already showed signs of beetle attack. As the snows receded, crews moved in to remove them and to spray beetles emerging from the bark.

"We are fighting against time as well as the insects," said Verne Osburn, forester for the California Division of Forestry, "and time favors the insects."

American Cyanamid Announces Appointments

NEW YORK—Roy A. Marriott has been appointed manager of sales training for the agricultural division of American Cyanamid Co., announced Burton F. Bowman, divisional marketing director. Previous to his new assignment, Mr. Marriott served as sales coordinator for the division.

Mr. Bowman also announced the appointment of Omar L. Patton to district manager of the Denver District in the Western region. Mr. Patton will replace Howard M. Geddes, who is returning to Canada to be associated with Cyanamid of Canada Ltd.

The above changes will be effective May 1, Mr. Bowman said.

MANUFACTURES INSECTICIDE
SAN FRANCISCO—The Cardinal Chemical Co. here, has begun to manufacture a new insecticide mixture of pyrethrins, piperonyl butoxide especially under contract for the Western States Meat Packers Association.

Dow Sponsors Farm Tours for County Agents in Summer

MIDLAND, MICH.—A Dow Study Tour Scholarship program for county agricultural agents, starting this summer, has been announced by the agricultural chemicals department of Dow Chemical Co.

A leading county agent from each state of the U.S. will participate in the program which is aimed at helping the county agents keep abreast of changes in agriculture, as well as to allow them to find new ideas for possible use or adaptation in their own county programs.

Recipients of the scholarships will take part in carefully planned study tours of approximately three weeks' duration. Their itineraries will include visits to marketing enterprises, outstanding farm operations, agribusinesses, successful extension service programs and research projects over wide state areas.

Four separate tours, one for members of each of four regions of the country, will be conducted. Regional classifications are Northeastern, Southern, North Central and Western. Tours will be in progress from mid-June through July, the company said. Selection of county agents to participate is being entirely administered by state and national officials of county agents' associations.

National sponsorship of these tours, which provide a special professional improvement opportunity for county agents, was decided upon by Dow following a successful trial tour in 1959 in which county agents from 12 North Central states toured agricultural and agriculture-related enterprises in a 13-state area.

T. A. Jonas Named Office Manager

LOS ANGELES—T. A. Jonas has been appointed manager of the Washington office for American Potash & Chemical Corp., G. S. Wheaton, vice president, defense programs announced.

Mr. Jonas, who moves up from the post of Washington representative, will maintain local business contacts for the firm's national northern division in addition to representing the company with governmental agencies.

Mr. Jonas replaces J.S. Murray who resigned to enter business as an independent consultant, in which capacity he will continue to perform services for the company.

SUCCESSFUL DEMONSTRATION

MIDLAND, TEXAS—A field demonstration of nematode control on the R. V. Robinson farm seems to have been successful. Last year Mr. Robinson, working with the Texas Agricultural Extension Service and the Wood Chemical Co. of Lubbock, chiseled a nematocide into 15 acres of irrigated cotton land.

After all cotton receipts were in for 1959, the profit was increased by over \$90 extra for each acre. Cost of the work was around \$16 per acre.

This was the largest nematode experiment to be tried in this area, and one of the most successful to date.

Accurately Blends and Spreads 3 Fertilizers at Once!
NEW LEADER MOBILE BLENDER

Model L-425

- Lets you offer mixed analysis at lower, bulk rates!
- 3 Separate compartments!
- 36" Conveyor synchronized to speed of truck by drive shaft drive!
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DEMAND FOR CUSTOM SPREADING IS GROWING

More and more farmers want the convenience of a bulk spreading service. It saves them time, equipment and maintenance expense plus, up to \$4-\$8 per acre over bagged goods. Let us help you get started in business with "New Leader".

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Mail coupon for L-425 literature and a copy of "Your Land Is Different" a booklet designed to help you sell more bulk fertilizer.



REMEMBER TO ORDER

CHASE BAGS

There's None Better!

CANADA NIXES SNAIL FARM

OTTAWA — Federal authorities in Canada have refused a request to establish a snail farm near Kitimat, B.C., as snails are regarded as a potential menace to agriculture. The plant protection division of the Canada Department of Agriculture used the Destructive Insect and Pest Act to reject the scheme after advice from A. H. Clarke, Jr., assistant curator of invertebrates, National Museum of Canada, that snails commonly used for food in western Europe have become an agricultural pest in areas of California and Michigan. They seriously damage tomatoes, lettuce, cabbage and strawberries. Radishes are eaten so avidly that it is now impossible to grow them in these areas, Mr. Clarke stated.

Mr. Clarke's opinions were accepted as a guide for dealing with future requests of this nature.

Monsanto Announces Divisional Changes

ST. LOUIS—Dr. Louis Fernandez, St. Louis, director of nitrogen products for Monsanto Chemical Co.'s inorganic chemicals division, has been appointed director of sales for marketing administration for the division's marketing department, a newly created position, J. L. Christian, vice president, announced.

In his new position Dr. Fernandez is responsible for the functions of technical sales and service, sales administration, advertising and sales promotion, market research and personnel recruiting and training, Mr. Christian said.

Stanley B. Johnson, St. Louis, assistant director of engineering, replaced Dr. Fernandez as director of nitrogen products, and Robert T. Webber, St. Louis, research group leader, became assistant director of engineering. John B. Trotter, St. Louis, director of sales administration, becomes director of sales, special products.

1st Quarter Sales

ST. LOUIS—Monsanto Chemical Co.'s combined sales for the first quarter of 1960 amounted to \$212,114,000 compared to \$197,842,000 for the same period in 1959. Combined sales include those of the parent company, its domestic and foreign subsidiaries and one-half of the sales of the 50%-owned associated companies.

Net income from such sales was \$16,131,000, a decrease of 3% from earnings of \$16,615,000 for the first quarter of 1959. The 1960 earnings were equivalent to 70¢ a common share on 23,170,315 shares outstanding. On the same basis, earnings for 1959's first quarter amounted to 72¢ a share on 23,156,857 shares.

Named Credit Manager

KANSAS CITY—Harold C. Gibson has been appointed credit manager for Chemagro Corp., Kansas City, manufacturer of agricultural chemicals. He was formerly with Spencer Chemical Co. in a similar capacity.

Mr. Gibson was graduated from Galena High School, Galena, Kansas, and received an A.B. degree in economics from Washburn University, Topeka, Kansas. He is a member of the National Chemical Credit Assn.

AGRICULTURE APPOINTMENTS

SALEM, ORE.—Gov. Mark O. Hatfield of Oregon recently appointed the following members to the State Board of Agriculture: Ernest F. Jernstedt, Carlton; R. A. Long, Fort Rock; Frank B. Rood, North Bend; Joe Y. Saito, Ontario; Ward Spatz, Medford; Frank Tubbs, Adams; and Hubert F. Willoughby, Harrisburg.

Pleads for Action in Boll Weevil Control

WASHINGTON—One of the nation's foremost cotton production authorities told a House subcommittee in testimony released here April 19 that the boll weevil may get completely out of control unless prompt action is taken.

Robert R. Coker, president, Coker's Pedigreed Seed Co., Hartsville, S.C., testifying in behalf of the National Cotton Council, told the House Agriculture Appropriations Subcommittee, "Insecticide-resistant boll weevils are spreading over wider areas each year."

"Although many farmers must spend as much as 5 to 6¢ a pound of cotton or up to \$45 an acre for poisoning, these measures have become less effective."

He quoted U.S. Department of Ag-

riculture figures which show that three times as many weevils survive the winter to invade cotton fields in the spring as survived 12 years ago.

Mr. Coker cautioned the committee, which is chaired by Rep. Jamie L. Whitten, (D-Miss.), that "Growing apprehensions as to potential hazards involving insecticide residues could restrict the use of certain chemicals, at present the farmer's only weapon against the weevil."

He pointed out that Congress has already started a research effort to eliminate this major cotton insect, having appropriated \$1.1 million for construction of a central cotton insect laboratory.

This facility will not be completed until 1961, however, and no effective increase in the boll weevil program will be realized until 1962 unless some immediate action is taken, Mr. Coker said.

He advocated that the Depart-

ment of Agriculture start before 1962 to build the laboratory's research staff so that a program can be developed, thereby minimizing delay after the building is completed.

100,000 SAMPLES

MARIANNA, ARK.—Soil testing reached a milestone here recently. The 100,000th soil sample passed through the Eastern Arkansas Branch Soil Testing and Research Laboratory, a part of the University of Arkansas Agricultural Experiment Station. C. D. Gibson, a farmer near Jonesboro, sent the sample to the laboratory, which is located on the grounds of the Cotton Branch Experiment Station about three miles south of Marianna. Richard Maples, assistant agronomist, has been in charge of the laboratory since the first sample was processed June 10, 1954, when the testing laboratory was dedicated.

NOW! ONE FORMULA FROM COAST-TO-COAST

When You Use Xylene-Base **ESPESOL 5!**

Same Specifications ... Same Fine Quality Available Nation-Wide from Eastern States Terminals!



• Constant weight
(pounds per gallon)

• Uniform flash point

• Consistent aromatic
content

• Narrow boiling range

* EASTERN STATES
TERMINALS

From coast-to-coast, scores of multi-plant formulators depend on the unchanging uniformity of Espesol 5 in each of their locations. There's no altering of formulas to meet varying solvent specifications when you use Espesol 5. A non-phytotoxic, water-white, Xylene-base diluent, Espesol 5 is today's most widely imitated insecticide solvent. Save yourself formulation problems and at the same time offer your customers a premium product by using premium quality, high specification Espesol 5.

Available in transport, tank car, barge and ship tank lots. Write or call for complete information.

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Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

Weed Control Essay Contest Gets Points Across to Dad

SPONSORSHIP by the North Central Weed Control Conference of an essay contest in which students will write on "How We Control Weeds on Our Farm," seems to us like a well worthwhile project. The contest is open to boys and girls residing in any one of the 14 Northern States or the Prairie Provinces of Canada.

Perhaps one of the best ways to get ideas across to parents is through their children seeking data for such a contest. It is easy to see how weed conscious father will become when son or daughter hounds him about weed facts and for information on the losses sustained by unwanted vegetation and on the chemicals used to control these weeds.

Putting kids on the trail of weed information is sure to result in their asking dad many questions. Many of these queries may prove embarrassing to him if he has been lax in his efforts to keep weeds under control in various crops. "If weeds cause so much loss, how come you don't get rid of them, pop?" "We ought to be using weed killers more than we do!" These and scores of other questions and comments could exert a considerable amount of pressure on farmers who may not have thought much about it previously.

Certainly the results of such a contest, providing there are a large number of participants, can be a strong factor in influencing farmers toward better methods of weed control. The students, according to the rules, must be 12 to 18 years old, and their families must be actively engaged in operating a farm. It is an ideal setup for getting the latest methods of weed control discussed at the supper table, with junior being the sparkplug in keeping the conversation going.

Anyone with children that age knows how intent they can be in seeking answers. The subject should be one in which the kids are interested enough to pursue in great detail.

Prizes are sufficiently attractive to make it worthwhile for the contestants to work hard. A \$300 scholarship grand prize will be awarded by the North Central Weed Control Conference. The award will be available to the winner at the time of registration in recognized agricultural colleges for courses in agriculture or home economics.

Eggs on Forbidden List?

THE "WORRIERS" WHO see threats to health in practically everything and who applaud the Delaney Act as being the answer to stopping cancer dead in its tracks, should now have another item to write down on their list of forbidden groceries. Eggs.

Eggs? A University of Puerto Rico research scientist has reported that mice in his experiments fed a diet of only whole eggs "develop cancer at many times the rate of mice fed a normal diet." Dr. Josel Szepeswol who made the tests has been experimenting with eggs for 11 years. He found that a chicken embryo grows from almost nothing to a weight of 40 gm. in 20 days, and this, he said, led him to believe there must be "a powerful growth-causing agent" in eggs, and that this agent "could conceivably promote the growth of other tissue, including malignant types."

We hope that no "egg scare" will result from Dr. Szepeswol's findings. There is indeed no call for alarm, but still, under the unbending provisions of the Delaney Act, here is a food product which has caused cancer under laboratory conditions. Should eggs thus be thrown off the market?

Nearly every day we hear of new discoveries where commonly-accepted foods and other materials can be made to contribute to cancer under

certain conditions in the laboratory. How far this ridiculous and panicky witch hunt will go remains to be seen. In the meantime, people must eat and it is likely that they will continue to do so.

State Commission Urged To Guide Pest Legislation

SUGGESTING THAT A commission be drawn from various departments of the state government to act as a guide to sound legislation regulating the sale, use and application of pesticides within the State, the College of Agriculture of the University of Massachusetts has presented a four-part policy statement covering the situation.

In its introduction to the resolution, the committee acknowledges that this is "an extremely complex area of legislation affecting individual citizens, private industry and enterprises, and many public agencies." To serve all interests, they said, "legislation should be developed with recognition of the interests and needs of all these groups to supplement existing Federal and State statutes and to provide necessary protection at minimum cost."

Here are the four suggestions made by the group:

1. That a commission be drawn from representatives of the Department of Natural Resources, Public Health, Agriculture, Public Works, Division of Fisheries and Game, the State Reclamation Board, Metropolitan District Commission, University of Massachusetts, Massachusetts Conservation Council, Farm Bureau, and representatives of agricultural organizations and pesticide industries be authorized to prepare drafts for pesticide legislation for consideration by the General Court in 1960-61.
2. That careful consideration be given to legislation patterned after the Uniform State Insecticide, Fungicide, and Rodenticide Act as developed by the Council of State Governments and modified to incorporate 1959 amendments to the Federal Insecticide, Fungicide, and Rodenticide Act, thus placing the main burden for controlling registration, labeling and establishing safety and use limitations upon the Federal government.
- Any proposal requiring costly testing and approval of pesticides in Massachusetts before use on fruits and vegetables would apply only to those grown in the Commonwealth which is less than 25 percent of the fruits and vegetables consumed within the State.
3. That legislation regulate all aerial applications of pesticides. Regulation of all large-scale ground applications of pesticides to non-agricultural areas, including public ways, is likewise favored. (Agricultural usage by ground application is covered in Statement 2.)
4. That fertilizers be excluded from such new legislation since the sale of fertilizers is now regulated under Massachusetts laws administered by the Massachusetts Agricultural Experiment Station.

The Commission outlined by the University would carry a considerable amount of influence in Massachusetts. Its careful appraisal of all factors involved in the sale and use of pesticides could well be beneficial to the industry if handled objectively. Certainly such a board would be acutely aware of the harm that can come to an industry through sweeping condemnations.

Massachusetts cranberry growers were hardest hit in the fiasco of last fall and it is likely that agricultural officials in that State will long remember the disastrous results of sudden edicts based on a minor bit of misapplication of pesticides in the other end of the country.



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MEETING

MEMOS



- June 7—Field Day, University of Maryland Agronomy-Dairy Forage Research Farm, Ellicott City, Md.
- Oct. 31-Nov. 3—International Crop Improvement Assn. meeting, Denver, Colo.
- Nov. 3-4—Annual fall convention, Pacific Northwest Plant Food Assn., Boise, Idaho.
- Nov. 9-11—National Fertilizer Solutions Assn., 1960 Convention, Memphis, Tenn.

Meeting Memos listed above are being listed in this department this week for the first time.

- June 9-11—Manufacturing Chemists' Assn. 88th annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.
- June 13-15—National Plant Food Institute annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.
- June 13-16—Western Society of Soil Science meeting, University of Oregon, Eugene, Oregon.
- June 21-23—Eighteenth Annual Convention, Association of Southern Food & Fertilizer Control Officials, Riverside Hotel, Gatlinburg, Tenn. For further information, write Maurice B. Rowe, secretary-treasurer, Department of Agriculture, 1119 State Office Building, Richmond 19, Va.
- June 27-29—Northwest Section, American Society of Range Management summer meeting, John Day, Oregon.
- June 27-29—Pacific Branch, Entomological Society of America, Davenport Hotel, Spokane, Wash.
- July 11-13—North Central Agronomy Society, Summer meeting, University of Minnesota Farm Campus, St. Paul, Minn.

July 13-15—Eleventh Annual Fertilizer Conference of the Pacific Northwest, Hotel Utah, Salt Lake City; B. E. Bertramson, State College of Washington, Pullman, Wash., chairman.

July 27-29—Great Plains Agricultural Council, 1960 meeting, Laramie, Wyo.

July 27-30—Southwest Fertilizer Conference and Grade Hearing, Galveston Hotel, Galveston, Texas.

Aug. 2-3—Ohio Pesticide Institute, Ohio Agricultural Experiment Station, Wooster, Ohio.

Aug. 15-23—Seventh International Soil Science Congress, University of Wisconsin, Madison, Wis. Prof. Emil Truog, Congress Manager, Soils Building, College of Agriculture, Madison 6, Wis.

Aug. 21-25—Canadian Fertilizers Assn., annual convention, Manoir Richelieu Hotel, Murray Bay, Quebec, Canada. H. H. Skelton, P.O. Box 147, Hochelaga Station, Montreal, Que., Canada, general chairman.

Aug. 25-27—Mississippi Soil Fertility and Plant Food Council, 1960 meeting, Buena Vista Hotel, Biloxi, Miss.

Sept. 24-26—Western Agricultural Chemicals Assn., 51st annual meeting, Palm Springs Riviera Hotel, Palm Springs, Cal.

Sept. 27-29—Annual meeting of National Agricultural Chemicals Assn. for 1960, Hotel del Coronado, Coronado, Cal.

Sept. 29-30—Northeast Fertilizer Conference, Hotel Hershey, Hershey, Pa.

Oct. 10-11—Second Annual 4-State Aerial Applicators Conference, Hotel Chynook, Yakima, Wash. Norkem Corp. is sponsor.

Oct. 5-6—Southeast Fertilizer Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Oct. 17-21—48th annual National Safety Congress, Fertilizer Section, LaSalle Hotel, Chicago.

Nov. 13-15—California Fertilizer Assn., 37th annual meeting, del Coronado Hotel, Coronado, Cal.

Jan. 11-13—Agricultural Ammonia Institute, 10th annual convention, Memphis, Tenn.

Committee Established To Study Insecticide Effect on Marine Life

MOBILE, ALA.—A four member special committee has been set up by the Gulf States Marine Fisheries Commission to study the "potential effects" of widespread insecticide programs on marine life in Gulf coastal waters.

The commission, in Mobile for its annual two-day spring meeting, represents five states—Alabama, Florida, Mississippi, Louisiana and Texas.

J. Lloyd Abbot of Mobile, long time foe of the insecticide programs to control or eradicate fire ants, went before the five state commission in executive session to present information indicating that large scale use of insecticides close to inland streams could have a detrimental effect on marine resources in Gulf Coast estuaries.

He was supported by I. B. Byrd, chief of the fisheries section of the Game and Fish Department of Conservation, who said: "There is little doubt in my mind that there will be toxic effects from these insecticides on estuarine marine life."

Theodore B. Ford of the Louisiana Wildlife and Fisheries Commission, chairman of the estuarine technical coordinating committee, appointed the following study committee: I. B. Byrd, chairman; Dr. Gordon Gunter, chief of the Gulf Coast Research Laboratory, Ocean Springs, Miss.; Dr. Lyle St. Amant, chief of oyster research of the Louisiana Wildlife and Fisheries Commission; and Dr. George A. Rounsefell, chief of the Bureau of Commercial Fisheries of the Texas Game and Fish Commission. The study group will report its findings back to the commission at its October meeting in St. Petersburg, Fla.

FIRM OPENS

CLARKSDALE, MISS.—The recently organized Delta Spray Corp. was officially opened on Highway 49 south of Clarksdale. Wallace Dendy is service manager and Oliver Wright, sales representative. Delta Spray will distribute and service Hahn Hi-Boy applicators.

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(Discussing promising new insecticide compounds at Hercules' Agricultural Chemicals Laboratory are: George Buntin, discoverer of toxaphene; Dr. E. N. Woodbury, laboratory super-

visor; Dr. Keith D. Ihde, research entomologist; Dr. Arthur D. Lohr, supervisor, Naval Stores research; and Dr. William R. Diveley, a discoverer of Delnav.)

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Continuous research is carried on by Hercules Powder Company to find new chemicals for agriculture, and to find better ways to utilize the tools

now available. Many of the people doing this work were engaged in the original development of toxaphene. Besides laboratory research, Hercules has placed great emphasis upon field testing and large-scale demonstrations. From such applied research in cotton insect control, for example, has come information to help farmers get better yields while lowering their production costs.

TOXAPHENE

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